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# **Report of The Royal Commission on Matters of Health and Safety Arising from the Use of Asbestos in Ontario**

Volume Three

**J. Stefan Dupré**  
Chairman

**J. Fraser Mustard**  
Commissioner

**Robert J. Uffen**  
Commissioner

Donald N. Dewees  
Director of Research

John I. Laskin  
Legal Counsel

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Executive Co-ordinator







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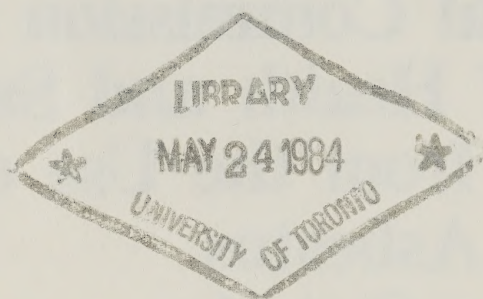
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## **Part VI**

### **Compensating Victims: Asbestos and Its Implications**



## Chapter 12 Determining Eligibility for Asbestos-Related Disease Compensation

### A. Introduction

Our terms of reference require us to “review the present basis for Workmen’s Compensation Board awards as they relate to occupational health matters affecting workers exposed to asbestos, including any special programmes dealing with the rehabilitation of such workers.” We were not asked to review the entire framework for workers’ compensation. The Government of Ontario assigned this task to Professor Paul C. Weiler on January 30, 1980, some four months before we were appointed. While our own inquiry was in progress, Professor Weiler published, in November 1980, an initial report entitled *Reshaping Workers’ Compensation for Ontario*.<sup>1</sup> This was followed in June 1981 by a *White Paper* setting out in the form of a legislative exposure draft important proposals for change in the Ontario workers’ compensation system.<sup>2</sup> These proposals remained in the realm of discussion when we held our formal hearings on workers’ compensation in the summer of 1982, some five months later than originally planned. The delay was occasioned in part to accommodate interested parties, whose own time resources had been pressed by the need to react to the *White Paper*. By the fall of 1982 and after the conclusion of our hearings, the acceptance of the *White Paper* proposals remained a matter for

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<sup>1</sup>Paul C. Weiler, *Reshaping Workers’ Compensation for Ontario*, a report submitted to Robert G. Elgie, M.D., Minister of Labour ([Toronto: Ontario Ministry of Labour], November 1980).

<sup>2</sup>Ontario, Ministry of Labour, *White Paper on the Workers’ Compensation Act* [Toronto: Ontario Ministry of Labour, 1981].



speculation. A slightly revised legislative draft of these proposals<sup>3</sup> was placed before the Standing Committee on Resources Development of the Ontario Legislature, whose report was to be expected in 1983. No government bill would be introduced before the Standing Committee's report was received. Whatever their disposition, the *White Paper* proposals would be joined in 1983 by a second Weiler report which, among other things, would address general issues in the realm of industrial disease compensation.<sup>4</sup>

Thus, fundamental changes in the basic framework of workers' compensation have been in the air throughout our inquiry. We have viewed this as an opportunity rather than a hindrance and indeed maintained contact with Professor Weiler during our work. The fact of the matter is that we could not take any fundamental change in the framework of compensation as a given because all such changes awaited decision as we conducted our own deliberations.

In this setting, it was our own best judgement to approach the issues posed by asbestos-related compensation and rehabilitation in a manner that would be sensitive to: (i) the possibility that there may be little change in the compensation framework governed by the current *Workers' Compensation Act*<sup>5</sup> and that such changes as we might wish to recommend should therefore be confined to asbestos-specific (or disease-specific) amendments to the current legislation; (ii) the possibility that a framework basically similar to the legislative exposure draft set out in the *White Paper* might be incorporated into a government bill and that such changes as we might wish to recommend should address the content of this bill; and (iii) the possibility that a quite novel approach to compensation contemplated by Professor Weiler in his second report could eventually divorce some or all industrial diseases and accidents from the workers' compensation framework in favour of a general compensation framework.

Of these three possibilities, the first two are less readily compartmentalized than the third. The practical result is that some of our recommenda-

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<sup>3</sup>Ontario, Standing Committee on Resources Development, *Hearings on Reshaping Workers' Compensation in Ontario* and on the *White Paper on the Workers' Compensation Act*, Exhibit 11a, "Changes in the Draft Act since June 25, 1981," filed by the Ontario Ministry of Labour, 8 September 1982.

<sup>4</sup>Paul C. Weiler, *Protecting the Worker from Disability: Challenges for the Eighties*, a report submitted to Russell H. Ramsay, Minister of Labour ([Toronto: Ontario Ministry of Labour], April 1983).

<sup>5</sup>The *Workmen's Compensation Act* was renamed the *Workers' Compensation Act* by the *Workers' Compensation Amendment Act, 1982*, R.S.O. 1982, c. 61, assented to December 21, 1982. By this same Act the Workmen's Compensation Board was similarly renamed the Workers' Compensation Board. Generally, references in the text of this Report use the term "Workers' " whereas footnote references indicate the term in use at the date of reference.

tions simultaneously invite amendments to the current legislation and endorse the changes proposed in the legislative exposure draft contained in the *White Paper*. In the chapters that follow, we shall indicate where this is the case. We shall also indicate where our recommendations invite amendments to whatever statute might provide the legal framework for workers' compensation in Ontario.

No issues before this Commission have proved more sensitive than those posed by workers' compensation. The informal phases of our hearings elicited from victims and survivors numerous submissions and presentations, many of them touchingly spontaneous. As a royal commission, we also pursued the matter of workers' compensation through sworn testimony under the procedures prescribed by the *Public Inquiries Act*. To help ensure an open ventilation of all sides of the question, we granted legal standing and public funds to the Asbestos Victims of Ontario. We commissioned a special study, entitled *Workers' Compensation and Asbestos in Ontario*, by an internationally recognized expert, Professor Peter S. Barth of the University of Connecticut.<sup>6</sup> This study was released in February of 1982 and figured prominently in the formal hearings we held during the following summer. It stimulated written commentaries from the Injured Workers' Consultants, the Workers' Compensation Board (WCB), and the Executive Director of the Board's Medical Services Division.<sup>7</sup> We ourselves commissioned two reviews by outside experts, Professor Terence G. Ison of Osgoode Hall Law School and Dr. Adam S. Little, former Chairman of the British Columbia Workers' Compensation Board.<sup>8</sup>

Notwithstanding the specific focus of our terms of reference on asbestos-related disease, the issues we must address are multi-faceted and have wide-ranging implications. We choose to address these issues as follows. First, there is the complicated question of determining eligibility for asbestos-related disease compensation through adjudication, eligibility rules, and appeals. This is the subject of the present chapter. Next, there are a number of procedural and substantive issues that arise from the handling of asbestos-related disease claims. These will be addressed in Chapter 13. Finally, we shall address in Chapter 14 issues of rehabilitation, outreach, and prevention as they relate to workers' compensation.

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<sup>6</sup>Peter S. Barth, *Workers' Compensation and Asbestos in Ontario*, Royal Commission on Asbestos Study Series, no. 2 (Toronto: Royal Commission on Asbestos, 1982).

<sup>7</sup>Nick McCombie, "Response to Peter Barth's *Workers' Compensation and Asbestos in Ontario* by Injured Workers' Consultants," Toronto, April 1982; The Workmen's Compensation Board, "Comments on the Study and Review Papers on Workmen's Compensation and Asbestos in Ontario," Toronto, 6 August 1982; and William J. McCracken, "Comments and Critique on a Study Prepared by Peter S. Barth, *Workers' Compensation and Asbestos in Ontario*," Toronto, 6 August 1982. (Mimeographed.)

<sup>8</sup>Reviews of studies prepared for the Royal Commission on Asbestos: Terence G. Ison, "*Workers' Compensation and Asbestos in Ontario: A Commentary on the Report of Peter S. Barth*," Toronto, April 1982; and Adam S. Little, "Critique re: *Workers' Compensation and Asbestos in Ontario*," Victoria, B.C., 1982. (Mimeographed.)

## B. The Determination of Eligibility

### B.1 The Current Setting

The *Workers' Compensation Act*, in section 122(1), states that "Where an employee suffers from an industrial disease and is thereby disabled or his death is caused by an industrial disease and the disease is due to the nature of any employment in which he was engaged," he is entitled to compensation.<sup>9</sup> The words of section 122(1) reflect a legislative amendment passed in 1973 that is of importance to asbestos-related disease compensation. At that time, a long-standing requirement that to be eligible for compensation, industrial disease victims must be disabled from earning full wages was abolished.<sup>10</sup> This permitted individuals in early stages of asbestosis who could nonetheless continue their employment to receive partial compensation.

The *Workers' Compensation Act* gives the Board wide authority to compensate industrial disease victims. It leaves the Board broad discretion to determine what is an industrial disease; whether or not an employee suffers from the disease; the extent to which the employee is thereby disabled; whether or not the employee's death was caused by the disease; and whether the disease was due to the nature of the employment. While the Act contains provisions that structure the Board's discretion, these feature less prominently, by the Board's own choice, in asbestos-related disease than in certain other industrial diseases. As we acknowledge later in this chapter, the Board has devised non-statutory means of structuring its discretion, but these have not been made widely known.

A generally acknowledged canon of public administration holds that where law ends, discretion begins. An historically hallowed dictum of constitutionalism holds in contrast that "where law ends, tyranny begins."<sup>11</sup> Which of these dicta applies to the current setting of asbestos-related disease compensation in Ontario? The first dictum applies as a matter of fact. The second applies as a matter of perception. Regretfully, our inquiry compels us to say that the Board is widely perceived to apply its discretion in a manner so capricious as to suggest to the beholder that the second dictum has elements of validity.

On the one hand, we have been most favourably impressed by the competence, sincerity, and resourcefulness of the Board officials and con-

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<sup>9</sup>R.S.O. 1980, c. 539, s. 122(1).

<sup>10</sup>*The Workmen's Compensation Amendment Act, 1973 (No. 2)*, S.O. 1973, c. 173, s. 9(1).

<sup>11</sup>The words "Where law ends, tyranny begins," are inscribed in the facade of the U.S. Department of Justice Building in Washington. For a seminal treatment of the relationship between law and discretion, see Kenneth Culp Davis, *Discretionary Justice: A Preliminary Inquiry* (Baton Rouge: Louisiana State University Press, 1969).



sultants who appeared before us. These are medical specialists and professional public administrators whose good intentions are beyond question and whose devoted actions over the years have applied the Board's discretion in a manner that places Ontario at the forefront of industrial disease compensation policy. It is a matter of fact that the Ontario Board was the first workers' compensation agency in North America to compensate asbestos-related lung cancer in the absence of clinical asbestosis and the leader in compensating laryngeal and gastrointestinal cancer among asbestos workers.

On the other hand, we cannot dismiss the disparaging remarks of victims, survivors, and persons experienced in presenting appeal cases to the Board. "To me," a lawyer who has long dealt with the Board told us, "it's just a jungle."<sup>12</sup> For his part, Professor Ison, in his review of the Barth study, expressed the opinion that the Board, in applying its discretion, has hopelessly entangled questions of law, policy, medical fact, and non-medical fact.<sup>13</sup> In this light we take yet other comments made to this Commission, however much some may have bordered on the vitriolic, as anything but crank views. We take them instead as the healthy reaction that citizens of a democratic society should have to the perception of tyranny.

Such a perception need not and should not be valid. As the noted legal scholar Kenneth Culp Davis has observed, tyranny will not begin where law ends if discretion has been adequately structured and confined.<sup>14</sup> The Board's problem must therefore lie in the extent to which discretion in determining the compensation eligibility of disease victims has lacked structure and confinement either in appearance or in fact. The approaches that have been available to the Board are statutory presumption, guidelines, and case-by-case adjudication. Let us examine how these approaches have been used.

## B.2 Statutory Presumption

This approach to the determination of eligibility for disease compensation is made available by section 122(9) of the *Workers' Compensation Act* which states:

If the employee at or immediately before the date of the disablement was *employed* in any *process* mentioned in the *second*

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<sup>12</sup>Ontario, Royal Commission on Asbestos, Transcript of Public Hearings [hereafter RCA Transcript], Submission by Mr. Daniel Ublansky on behalf of the Energy and Chemical Workers Union, Volume no. 47(B), 5 July 1982, p. 116.

<sup>13</sup>Ison, "Workers' Compensation and Asbestos in Ontario: A Commentary on the Report of Peter S. Barth," p. 14 and *passim*.

<sup>14</sup>Davis, *Discretionary Justice: A Preliminary Inquiry*. This is the basic argument of Professor Davis' book.

*column of Schedule 3 and the disease contracted is the disease in the first column of the Schedule set opposite to the description of the process, the disease shall be deemed to have been due to the nature of that employment unless the contrary is proved . . . .* (Emphasis added.)<sup>15</sup>

Section 122(9) creates a statutory presumption in favour of any claimant whose disease and employment satisfy the content of Schedule 3 by stating that this individual's disease "shall be deemed to have been due to the nature of that employment unless the contrary is proved." It structures the discretion of the Board in the matter of eligibility for disease compensation by making it clear that the stipulations of Schedule 3, when satisfied, generate in favour of the claimant a rebuttable presumption, that is, a presumption the burden of whose refutation must be borne by others.

The Schedule 3 to which section 122(9) refers is as old as workers' compensation in Ontario. The original statute of 1914 included a schedule which associated six diseases with six industrial processes.<sup>16</sup> In 1926, Schedule 3 was amended to provide, first, for silicosis in relation to mining and, second, for pneumoconiosis as it related to the processes of "quarrying, cutting, crushing, grinding, or polishing of stone, or grinding or polishing of metal."<sup>17</sup> The addition of pneumoconiosis to Schedule 3 made asbestosis a compensable disease. In 1942, the first asbestosis claim was compensated.<sup>18</sup>

Until 1947, it was a requirement that a disease be listed in Schedule 3 in order to be eligible for compensation. On March 31, 1947, the Act was amended by enacting the forerunner to the present section 1(1)(n) which defines industrial disease as including not only diseases mentioned in Schedule 3 but "any other disease peculiar to or characteristic of a particular industrial process, trade or occupation."<sup>19</sup> This amendment greatly liberalized industrial disease compensation policy in Ontario. It also vested the Board with the broad discretion it possesses to the present day. Schedule 3, meantime, remained available as a means of structuring the Board's discretion and indeed was made more readily available than heretofore by an amendment, also enacted in 1947, which transferred the approval of future changes in Schedule 3 from the Legislature to the Lieutenant Governor in Council.<sup>20</sup> Henceforth the Board need only secure an order-

<sup>15</sup>R.S.O. 1980, c. 539, s. 122(9).

<sup>16</sup>*The Workmen's Compensation Act*, S.O. 1914, c. 25.

<sup>17</sup>See S.O. 1926, c. 42; and Amendment to Regulation 94, 1 June 1926.

<sup>18</sup>The Workmen's Compensation Board, Ontario, Written submission to the Royal Commission on Asbestos, #69, 15 June 1981, p. 1.

<sup>19</sup>S.O. 1947, c. 119, s. 1(1)(h)(ii).

<sup>20</sup>S.O. 1950, c. 89, s. 10. See also, Barth, *Workers' Compensation and Asbestos in Ontario*, p. 5.3.

in-council to change Schedule 3. But for reasons cited later in this chapter, the Board chose not to take advantage of this more flexible means of structuring its enhanced discretion.

The last episode in the story of Schedule 3 as it concerns asbestos-related disease was written in 1955. As of January 1, 1956, the processes that had hitherto been listed in the second column of the Schedule opposite pneumoconiosis were listed opposite silicosis. Pneumoconiosis reappeared in the first column (the disease column) as "the pneumoconioses other than silicosis."<sup>21</sup> Opposite these words the second column (the process column) was left blank. The statutory presumption triggered by section 122(9) was thereby rendered inoperable with respect to asbestosis claimants and remains so to the present day. Even before this apparently anomalous situation came about, the Board had decided to veer away from statutory presumption as a means of structuring its discretion.

### B.3 Guidelines

In 1947, at the very time when it became possible to change Schedule 3 merely by having recourse to an order-in-council, the Board "... concluded that with the proliferation of substances and conditions ... it would be impossible to constantly keep adjusting Schedule 3."<sup>22</sup> Apparently, what led the Board to eschew statutory presumption was the issue of work-relatedness, the very issue that makes the compensation of industrial disease more challenging than the compensation of industrial accidents. In the words of the Board's current Vice-Chairman of Administration and General Manager in testimony before us: "... the evidence was that the absolute relationship between industrial process and those conditions was not such that you could justify automatic presumptions. ..."<sup>23</sup> As an alternative to Schedule 3, the Board might be able to structure its discretion through guidelines. In the meantime, the Board would adjudicate disease claims from case to case, approaching each claim as if it were entirely new. "Historically," Professor Barth noted, "this has been the [Board's] approach when very few claims for a specific disease had materialized or were expected."<sup>24</sup> According to Professor Barth, the initial guidelines to be applied to the processing of industrial disease claims emerged in 1949 (lung cancer in relation to coal tar); 1956 (lung cancer in relation to arsenic-

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<sup>21</sup>O. Reg. 230/55 under *The Workmen's Compensation Act*, as printed in *The Ontario Gazette*, 17 December 1955, p. 2370.

<sup>22</sup>RCA Transcript, Evidence of Mr. Alan G. MacDonald, 11 August 1982, Volume no. 55, p. 13.

<sup>23</sup>Ibid.

<sup>24</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, p. 5.2.



smelting); 1959 (lung and sinus cancers in relation to nickel refining); and 1969 (lung and sinus cancers in relation to sintering).<sup>25</sup>

Ongoing attention to the development of guidelines is not apparent until the mid-1970s, and coincides with the appointment of the Board's current Executive Director of the Medical Services Division, Dr. William J. McCracken, who assumed his post in 1975. As Dr. McCracken told us when he testified at our hearings: "It was my opinion that wherever possible . . . guidelines of various types should . . . be developed, because this would be of real assistance in the handing down of uniform decisions."<sup>26</sup> The words of this witness capture the essential purpose of guidelines (or for that matter statutory presumptions): to serve the goal of horizontal equity, that is, the similar treatment of similarly situated individuals.

The credentials of the individuals, whether staff or consultants, who have been involved in developing Board guidelines are impeccable, and their analysis of the controversial scientific issues posed by asbestos-related diseases has been studied and thorough. However, the manner in which Board guidelines have been processed and publicized is not commensurate with the importance of the equity goal they are meant to serve. The development of the current asbestos-related disease guidelines is covered at length in Professor Barth's study and need not be repeated here. On the basis of our hearings, we choose to offer observations rather than detailed description. For the purposes of this chapter, the guidelines to which we allude are those for lung cancer (approved by the Board on April 13, 1976); mesothelioma (approved April 13, 1976); gastrointestinal cancer (approved October 7, 1976); and laryngeal cancer (approved in provisional form May 4, 1978). The text of these guidelines is provided in the Appendix to this chapter. We defer to Chapter 13 the question, raised by Professor Barth, of whether or not an asbestosis guideline is in existence, as this is an important illustration of the difficulties that have beset the processing of individual claims. And we defer to Chapter 14 discussion of the Board's pre-disease Asbestos Fibre Dust Effect guideline because it is related to rehabilitation. Our observations with respect to the mesothelioma and asbestos-related cancer guidelines can be distilled into the following points:

- (i) The unstructured nature of the Board's guideline-setting process is borne out by evident disagreement between the Board's Vice-Chairman of Administration and the Executive Director of the Board's Medical Services

<sup>25</sup>Ibid., p. 5.5. Professor Barth also noted on pp. 5.4 and 5.6 a few guidelines developed between 1956 and 1972 whose range of coverage was limited to a single firm. The Executive Director of the Board's Medical Services Division has referred to these as directives rather than guidelines. See RCA Transcript, Evidence of Dr. William J. McCracken, 20 July 1982, Volume no. 53, pp. 34-35.

<sup>26</sup>RCA Transcript, Evidence of Dr. William J. McCracken, 20 July 1982, Volume no. 53, p. 23.

Division regarding details of that process. In testimony, the former sustained Professor Barth's contention<sup>27</sup> that the Management Committee plays the initiating role by forming a subcommittee to devise guidelines,<sup>28</sup> and that the Management Committee ultimately conveys guidelines to the Corporate Board for its approval.<sup>29</sup> The latter took issue with Professor Barth and spoke instead of the central role of an *ad hoc* committee struck at the initiative of the Executive Directors of the Medical Services and Claims Services Divisions<sup>30</sup> and of the role of these officials in subsequently transmitting guidelines directly to the Corporate Board.<sup>31</sup> Which view is correct is less important than what this evident disagreement tells us about the informality of the guideline-setting process.<sup>32</sup>

(ii) Professor Barth's description of guideline-setting did not mention the Board's Joint Consultative Committee. This Committee, created by a 1973 amendment to *The Workmen's Compensation Act*,<sup>33</sup> is composed of Lieutenant Governor in Council appointees, "representative of labour, management and the public,"<sup>34</sup> who are advisory to the Corporate Board. In making no reference to this Committee, Professor Barth correctly conveyed the fact that it was not active in the development of the mesothelioma and asbestos-related cancer guidelines. However, we have been informed by the Board that when the laryngeal cancer guideline related to asbestos and nickel exposure was released in May of 1978, the Committee expressed a desire to become involved in future guidelines.<sup>35</sup> The Committee's subsequent input into the development of non-asbestos disease guidelines is testimony to the Corporate Board's willingness to take a step away from what has been an entirely closed and internal guideline-setting process, but by way of reaction rather than on its own initiative.

(iii) The content of the mesothelioma and asbestos-related cancer guidelines is indeed, as Professor Barth pointed out, at variance with some of the expert medical consultants' findings.<sup>36</sup> Bearing in mind that the guidelines

<sup>27</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, pp. 5.12, 5.13.

<sup>28</sup>RCA Transcript, Evidence of Mr. Alan G. MacDonald, 11 August 1982, Volume no. 55, pp. 45-46.

<sup>29</sup>Ibid., pp. 47-48.

<sup>30</sup>RCA Transcript, Evidence of Dr. William J. McCracken, 20 July 1982, Volume no. 53, pp. 28-29.

<sup>31</sup>Ibid., pp. 29-30.

<sup>32</sup>The description of the process given to us by the Executive Director of the Claims Services Division is basically in line with that offered by the Executive Director of the Medical Services Division. See RCA Transcript, Evidence of Mr. John F. McDonald, 13 July 1982, Volume no. 48, pp. 158-159.

<sup>33</sup>*The Workmen's Compensation Amendment Act, 1973 (No. 2)*, S.O. 1973, c. 173, s. 8.

<sup>34</sup>R.S.O. 1980, c. 539, s. 71(3)(h).

<sup>35</sup>See "The Joint Consultative Committee on the Workmen's Compensation Board — Comments on its History and Involvement in the Development of Guidelines for the Adjudication of Industrial Diseases," attached to letter from Mr. Alex Joma, Secretary, The Workmen's Compensation Board to the Royal Commission on Asbestos, 23 August 1982.

<sup>36</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, pp. 5.12-5.24.

are intended to structure the Board's discretion in adjudicating claims, such variance from expert findings is not inherently a defect, because the guidelines by their very purpose are at once more and less than scientific statements. For the Board to make a guideline somewhat more stringent than expert findings indicate could be taken as expressing the pragmatic judgement that closer case-by-case scrutiny of a larger volume of claims remains advisable in the face of uncertainty. Conversely, for the Board to promulgate a guideline with terms less stringent than indicated by expert findings would express the equally pragmatic judgement that the volume of case-by-case scrutiny which would result from adhering to these findings is not warranted and that relatively automatic compensation of what would otherwise be agonizingly debatable claims is to be preferred. Either judgement involves considerations which, because they affect the relative volume of cases that must receive close scrutiny, are matters of adjudicative policy. If this seems reasonable, however, the content of the Corporate Board's lung cancer guideline offers a rather arresting instance of two pragmatic judgements that run in opposite directions. Here the Corporate Board chose to be more stringent than its expert by adopting a minimum exposure duration of 10 years where he had none (this increases the need for case-by-case scrutiny); and then less stringent than the same expert by stipulating a minimum latency period of 10 years where he had 15 (this decreases the need for case-by-case scrutiny). We take this as indicative of a less than systematic approach to guideline content at the level of the Corporate Board.

(iv) Even in the limited realm of asbestos-related disease, the use of guidelines as a means of structuring the Board's discretion has been selective rather than general. Nothing makes the point more tellingly than the absence of a guideline for compensating the survivors of partially disabled asbestotics. It is a requirement of the *Workers' Compensation Act* that, with the exception of deceased individuals who were in receipt of a 100% permanent disability pension,<sup>37</sup> survivor benefits shall be allowed only if the victim's ". . . death is caused by an industrial disease and the disease is due to the nature of any employment in which he was engaged. . . ."<sup>38</sup> This requirement, whatever its merits, has posed as acute an adjudicative challenge to the Board as it has brought indignant grief to many survivors. We postpone comments on the adequacy of the Board's adjudication to Chapter 13. With respect to the absence of a guideline, however, we note that Professor Barth and the Board witnesses who appeared before us were in full agreement that benefits nonetheless flow to survivors of all partially disabled asbestotics whose deaths from asbestosis, mesothelioma, or an asbestos-related cancer have been verified. Furthermore, the testimony of the Board's Chest Disease Consultant indicated that the Board invariably

<sup>37</sup>R.S.O. 1980, c. 539, s. 43(7).

<sup>38</sup>*Ibid.*, s. 122(1). This section is further reinforced by s. 36(1) ("Compensation in case of death"), which begins with the words: "Where death results from an injury. . . ."



compensates the survivors of asbestotics who die of *cor pulmonale* (right-sided heart failure arising from pulmonary fibrosis).<sup>39</sup> The non-existence of a guideline which would at least promulgate these established practices as policy speaks tellingly of the Board's piecemeal approach to the structuring of its discretion.

(v) It remains clear that the Board intended to use guidelines as a means of structuring its discretion in the adjudication of asbestos-related disease claims. Accordingly, claims that fall within the guidelines will be favourably adjudicated if the facts of the claimant's case satisfy Board officials that the claim falls within the guidelines. It is equally clear, however, that the guidelines were originally intended solely for the internal use of the Board and not as a means of publicizing the fact that the Board was indeed structuring its discretion. Thus, the Board, more particularly the Corporate Board, failed to seize a genuine opportunity to combat perceptions of arbitrariness among its claimants and appellants. In opting, however valid its reasons, to structure its discretion through guidelines rather than the statutory presumptions made available by Schedule 3 of the Act, the Corporate Board either overlooked or ignored the fact that Schedule 3 has always been publicly available. When the Board's guidelines did become public documents in 1979, this was not at the Board's initiative but in response to a recommendation made by the Select Committee on the Ombudsman of the Ontario Legislature.<sup>40</sup> As for the extent to which the guidelines are now publicly disseminated, suffice it to note that they are to be found in a large volume available for \$36 at the Ontario Government Bookstore.

If the above observations can be summarized in a single sentence, it is that the Board's recourse to guidelines as a means of structuring its discretion, however useful, has been informal, internal, unsystematic, and piecemeal, and has done nothing to dispel perceptions of Board arbitrariness.

## B.4 Case-by-Case Adjudication

The Board's guidelines simplify case-by-case adjudication. Precisely because guidelines structure the Board's discretion, the act of adjudicating claims that ostensibly meet the guidelines is simply a matter of verifying the facts involved. This leaves all remaining claims to fall into one of three categories of case-by-case adjudication: (i) claims that should be covered by guidelines but are not; (ii) claims involving diseases that are subject to guidelines but whose facts fail to meet the guidelines; and (iii) claims whose nature is unfamiliar and may indeed be pathbreaking. Because we have

<sup>39</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, pp. 79-80.

<sup>40</sup>Ontario, *Fifth Report of the Select Committee on the Ombudsman*, Michael N. Davison, MPP, Chairman (Toronto: 9 November 1978), pp. 55, 126, 127, 135.

already criticized the Board for its piecemeal approach to guideline-setting, we dismiss the first category by stating that, in our view, it should not exist. This leaves the second and third categories for comment here.

With respect to claims that fall into the second category, the Board has seen fit to offer a measure of direction concerning the manner in which adjudicators are to approach them. Each of the guidelines for mesothelioma, lung cancer, gastrointestinal cancer, and laryngeal cancer contains the following words:

Claims which do not meet the guidelines . . . should be individually judged on their own merit having regard to the intensity of exposure and other factors peculiar to the individual case. *The benefit of reasonable doubt applies.* (Emphasis added.)

Two of the four guidelines, that for mesothelioma and that for gastrointestinal cancer, contain an additional sentence that appears between the first and the second of the sentences quoted above:

Consideration will be given where it seems evident that the [mesothelioma] [gastrointestinal cancer] resulted from occupational exposure to asbestos.

We have no evidence that this additional sentence has any significance. What *is* significant is the directive that is given to adjudicators by the statement “the benefit of reasonable doubt applies.” In 1980, the Board revised this statement by removing the word “reasonable,” so that its current official version is “the benefit of doubt applies.” This revision was made in response to concern expressed by reports of the Select Committee on the Ombudsman<sup>41</sup> and, in the words of the Executive Director of the Board’s Medical Services Division, “It was interpreted that [it] would operate more favourably to the worker.”<sup>42</sup>

In principle, we can only praise the Board for what it is trying to achieve through a benefit of doubt directive. Eligibility rules such as guidelines serve important purposes but pose their own danger: namely, that adjudicators, merely because a guideline is in place, may approach claims that do not satisfy the guidelines with a negative mind-set. In that the benefit of doubt directive combats this danger, it is laudable.

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<sup>41</sup>Ibid., pp. 37–39, 124–125; and Ontario, *Seventh Report of the Select Committee on the Ombudsman*, Patrick D. Lawlor, MPP, Chairman (Toronto: 17 September 1979), pp. 27–29.

<sup>42</sup>RCA Transcript, Evidence of Dr. William J. McCracken, 20 July 1982, Volume no. 53, p. 67.

How has the benefit of doubt directive been applied in practice? Here mesothelioma claims are to be sharply distinguished from asbestos-related cancer claims. Professor Barth has stated,<sup>43</sup> and our evidence confirms, that mesothelioma claims which do not meet the pertinent guideline are invariably compensated unless there has been no documented occupational exposure to asbestos whatsoever.<sup>44</sup> This may speak, as we shall argue later, for the possibility that the guideline approach to mesothelioma is inadequate; in any event it testifies to the existence of a *positive* mind-set among adjudicators where mesothelioma is concerned. (We duly note in passing that the "adjudicators" involved are an amalgam of lay and medical officials, reflecting the entanglement of policy, fact, and medicine which Professor Ison has criticized and to which we shall return in Chapter 13.)

As Professor Barth pointed out, the situation with respect to asbestos-related cancer claims is different. Here, a number of claims that do not satisfy the guidelines are in fact rejected. We see no anomaly here because we would expect, as a general proposition, that certain claims which do not satisfy the guidelines might indeed be deniable. Our concern lies not in claim denials *per se*, but in the possibility that a negative mind-set would yield relatively automatic denials. Such does not appear to be the case. Professor Barth observed that where a claim does not meet the guidelines, "... there still remains a substantial possibility that compensation will be paid."<sup>45</sup> Data supplied to us by the Board with respect to lung cancer claims indicate that, of 52 asbestos-related lung cancer claims which have been allowed, 4 failed to satisfy the guidelines' minimum exposure criterion of 10 years. One successful claim lacked a quantifiable record of exposure; two lacked a quantifiable record of latency. Of 18 lung cancer claims rejected, only 6 involved identified exposure to asbestos, and all of these 6 involved exposure well below the 10 years specified in the guideline. (The mean length of exposure in these 6 claims was 2.68 years, and the one with the longest exposure, 6.29 years, revealed no asbestos bodies in pathological specimens.)<sup>46</sup> We take this as indicative that, at least with respect to guideline-related lung cancer claims in the realm of asbestos, the Board's adjudication has not displayed a negative mind-set.

There remains our third category of case-by-case adjudication; namely, claims that are unfamiliar and are potentially pathbreaking. Here, the wide discretion which the Board enjoys in all matters of industrial disease

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<sup>43</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, p. 5.18.

<sup>44</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, p. 74.

<sup>45</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, p. 5.31.

<sup>46</sup>Ontario, Royal Commission on Asbestos, Exhibit IV-9 [hereafter RCA Exhibit], filed with the Commission prior to the Evidence of Mr. William D. Pearce, 12 August 1982: The Workmen's Compensation Board, Ontario, Inter-Divisional Communication from Dr. Douglas W. Dyer, Chest Disease Specialist to Mr. Alex Joma, Secretary, 10 August 1982.



compensation comes into play, and we would not have it otherwise. In the real world of multiplying workplace hazards and advances in scientific knowledge, the very possibility of eventually structuring discretion in matters of workers' compensation is created by the careful consideration of unusual or historically new claims. We consider such discretion highly desirable, subject only to the confinement generated by benefit of doubt policy and a scrupulously fair appeals procedure. Let us now address eligibility for disease compensation in a prescriptive vein.

## **C. Structuring the Determination of Eligibility for Disease Compensation**

### **C.1 The Need for Institutional Change**

Asbestos-specific though our terms of reference may be, our reflections on the matters just discussed have led us to conclude that we would shortchange our assignment if we failed to address subjects that impinge on workers' compensation at the highest level of generality. Accordingly, we begin our prescriptions by considering the make-up of the Corporate Board and the need to overhaul the Board's appeals procedures. In our judgment, Professor Weiler has dealt with these matters cogently and creatively. We therefore make most of our own recommendations by way of either supporting or supplementing his work.

With respect to the make-up of the Corporate Board, we broach a subject that indeed has implications for many compensation matters far outside our terms of reference. But as we proceeded to piece together the story of the Board's development of asbestos-related disease guidelines, our first instinctive reaction led us to question most seriously the adequacy of the present composition of the Corporate Board. How is the informal, internal, unsystematic, and piecemeal quality of the Board's approach to the structuring of its discretion to be explained? In that the avowed purpose of the guidelines was to serve horizontal equity among similarly situated claimants, how could the Corporate Board overlook or ignore the opportunity to give wide publicity to its efforts in this regard? Remarkably, how could this happen during a decade in which the Corporate Board and its agency were being repeatedly and widely excoriated by politicians and the media for acting in a seemingly arbitrary and capricious manner? Our intuitive response is that a substantial part of the answer to these questions must lie in the statutorily prescribed make-up of the Corporate Board as a seven-member body composed entirely of full-time officials (a Chairman, Vice-Chairman of Administration, Vice-Chairman of Appeals, and four Commissioners of Appeals). A membership composition better designed, particularly in the face of outside criticism, to foster an inward-looking, siege mentality could scarcely be devised. By statute and through no fault



of its own, the Corporate Board has been deprived of the refreshing perspectives that only part-time directors can bring to the policy deliberations of any major corporation.

We strongly endorse Professor Weiler's argument in favour of a Corporate Board with a majority of outside directors.<sup>47</sup> In so doing, we lay explicit emphasis on the importance of a *majority* to ensure that outsiders will have a guiding influence on corporate deliberations rather than be co-opted as a part-time minority can so often be by full-time officials. Accordingly, we recommend that:

***12.1 In line with the legislative exposure draft in the White Paper on the Workers' Compensation Act, the Corporate Board of the Workers' Compensation Board should be composed of a majority of outside directors.***

We join Professor Weiler in advocating that the choice of outside directors should bring to the Board "... the points of view of labour, management, medicine, vocational rehabilitation, occupational health and safety, and the economics of income maintenance."<sup>48</sup> To this we would add our own view that the choice of outside directors should also be open to a few individuals who would be selected solely on the basis of demonstrated wisdom and common sense in areas totally unrelated to the compensation field. The legislative exposure draft in the *White Paper on the Workers' Compensation Act* envisages a Corporate Board of not more than nine directors, including the Chairman, the Vice-Chairman of Administration, and the Chairman of the Appeals Tribunal. We respect the thrust of Professor Weiler's admonition that the number of directors "... be kept small enough to allow the Corporate Board to function as a cohesive deliberative body rather than as a primarily representative institution."<sup>49</sup> However, we view the maximum of nine directors envisaged by the *White Paper* as unduly restrictive. This is not least because, later in this chapter, we find reason to add a fourth official to the echelon that includes the Chairman, the Vice-Chairman of Administration, and the Chairman of the Appeals Tribunal. With a maximum of only nine, the majority of outside directors would dwindle to one. Our own personal experiences in various domains satisfy us that, at no sacrifice in cohesion, a somewhat higher maximum can permit a broader range of representative interests, including those of labour and management, and a more robust majority of outside directors. We therefore recommend that:

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<sup>47</sup>Weiler, *Reshaping Workers' Compensation for Ontario*, pp. 129-133.

<sup>48</sup>*Ibid.*, p. 130.

<sup>49</sup>*Ibid.*

***12.2 Contrary to the legislative exposure draft in the White Paper on the Workers' Compensation Act, the number of Corporate Board members should be fixed at a maximum of twelve.***

In the matter of appeals, Professor Weiler's approach merits our enthusiastic endorsement. He has not proposed to change the role either of the Claims Review Branch, which screens every claim whenever it appears that an adverse decision may have to be made, or of the Appeals Adjudicators, who provide the initial level of appeal. We accept Professor Weiler's reasons for confining structural change to the upper echelon of appeals and add two reasons of our own. First, we believe that changes which we propose in Chapter 13 will improve the quality of lower-level claims adjudication with respect to asbestos-related disease. Second, we believe that Professor Weiler's approach to the disclosure of medical reports and opinions will favourably influence the equity of adjudication below the upper echelon of appeals. Translated into the language of the exposure draft legislation in the *White Paper on the Workers' Compensation Act*, this approach stipulates in section 80(1) that:

*Any medical report or medical opinion in respect of a worker or deceased worker . . . from any source whatsoever . . . shall . . . be made available to the worker or claimant for compensation.*  
(Emphasis added.)

Such statutory language, which is in line with the recommendations of the Commission of Inquiry into the Confidentiality of Health Information (the Krever Commission), should strengthen and broaden the policy concerning access to claim files which the Board promulgated on December 28, 1981. It also appears to us likely that the availability of medical reports and opinions to appellants will, over time, reduce the extent to which, as Professor Ison has observed, issues of policy, non-medical fact, and medicine have been entangled. By way of formally recording our unqualified support of Professor Weiler's approach to the disclosure of medical information, we recommend that:

***12.3 The provisions of section 80 of the legislative exposure draft in the White Paper on the Workers' Compensation Act concerning access to medical reports and opinions should be enacted in substantially their present form.***

At the upper echelon of appeals, the legislative exposure draft does away with the existing Appeals Boards and with appeals to the Corporate Board in favour of the "Workers' Compensation Appeals Tribunal," which is separate from the WCB and composed of a Chairman, Vice-Chairman, and an unspecified number of members, equally representing employers and workers, all of whom are to be Lieutenant Governor in Council appointees. The decisions of this independent tribunal are binding on the

Corporate Board, save that the Corporate Board may direct the Tribunal to reconsider a matter where a decision of the Tribunal turns upon an interpretation of general law or the policy of the Act.

We are pleased to take due note of the personal support which Mr. Alan G. MacDonald, the Board's Vice-Chairman of Administration, expressed for the proposed appeals structure in his testimony before us.<sup>50</sup> The only reservation which he personally voiced concerned Professor Weiler's proposal that the Chairman of the Appeals Tribunal should sit on the Corporate Board. In Mr. MacDonald's view, this might perpetuate "... the public perception ... that there is an influence by the Board over the appeal group. ..."<sup>51</sup> Professor Weiler justified his own preference as the most attractive response to the need to ensure an open channel of communication between the policy role of the Board and the adjudicative role of the Tribunal.<sup>52</sup>

We find ourselves most sensitive to the issue of perception, particularly when it can be said that the membership of the Appeals Tribunal Chairman on the Corporate Board might offend natural justice. On the other hand, we find this *open* channel of communication far preferable to the possibility of informal Board-Tribunal intercourse with its own implications for public perception. On balance, wishing to express our overall endorsement of the appeals structure Professor Weiler has proposed, we recommend that:

*12.4 The provisions of the legislative exposure draft in the White Paper on the Workers' Compensation Act concerning the structure and procedures of the "Workers' Compensation Appeals Tribunal" should be enacted in substantially their present form.*

There is one aspect of Appeals Tribunal procedure which we consider so important that we wish to record a pinpointed endorsement. We refer to section 75(3) of the legislative exposure draft which stipulates:

Every decision of the Appeals Tribunal, disposing of an appeal, together with its findings and reasons, shall be made in writing.

Supporting provisions in the legislative exposure draft direct that Tribunal decisions shall be promptly communicated in writing to the claimant, employer, or party of record. The *White Paper* stresses the importance

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<sup>50</sup>RCA Transcript, Evidence of Mr. Alan G. MacDonald, 11 August 1982, Volume no. 55, p. 22.

<sup>51</sup>Ibid., p. 23.

<sup>52</sup>Weiler, *Reshaping Workers' Compensation for Ontario*, p. 117.



of the reasons for Tribunal decisions and stipulates that the Tribunal is to “. . . publish or otherwise make them publicly available.”<sup>53</sup>

In their testimony before us, the Executive Director of the Board's Claims Services Division and the Executive Director of its Medical Services Division each expressed reservations about the publication of decisions.<sup>54</sup> The former official noted that the British Columbia Board may be moving away from its publication practices.<sup>55</sup> The reservations which these two officials harboured are rooted in an honest and proper concern that published decisions could confine matters of disease compensation in a straightjacket of precedents. This concern is well taken, but in our view was grasped fully by Professor Weiler when, in support of his recommendation, he wrote: “I do not advocate practice of rigid adherence to strict precedent . . . . Surely it is high time, though, that Ontario begin to develop a coherent jurisprudence of workers' compensation by using a series of concrete appeals to work out and refine sensible principles and policies.”<sup>56</sup> To this we ourselves would only add that openness is the natural enemy of arbitrariness. We therefore recommend that:

*12.5 The provisions of section 75(3) of the legislative exposure draft in the White Paper on the Workers' Compensation Act concerning the requirement that Appeals Tribunal decisions, including findings and reasons, be made in writing should be enacted into law, together with the supporting provisions requiring communication of decisions to the claimant, employer, or party of record.*

Professor Weiler's final proposal affecting the upper echelon of appeals takes the form of Medical Review Panels (MRPs). Members of MRPs are to be selected from rosters of medical specialists in particular classes of injury or disease. The rosters are to be named by the Lieutenant Governor in Council. Each MRP is to consist of three members drawn from the roster, one named by the claimant, the second by the employer, and the third (the chairman) named by the other two members. An MRP may be constituted at the request of: (i) the Board; (ii) the Appeals Tribunal; or (iii) a claimant or his employer. An application for an MRP by the claimant or his employer, pursuant to section 81(2) of the legislative exposure draft,

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<sup>53</sup>Ontario, Ministry of Labour, *White Paper on the Workers' Compensation Act*, p. 37.

<sup>54</sup>RCA Transcript, Evidence of Mr. John F. McDonald, 14 July 1982, Volume no. 49, p. 113; and RCA Transcript, Evidence of Dr. William J. McCracken, 20 July 1982, Volume no. 53, p. 138.

<sup>55</sup>RCA Transcript, Evidence of Mr. John F. McDonald, 13 July 1982, Volume no. 48, p. 97.

<sup>56</sup>Weiler, *Reshaping Workers' Compensation for Ontario*, p. 116.



... shall be accompanied by a certificate from a physician stating that in the opinion of the physician there is a *bona fide* medical dispute to be resolved, and such certificate shall include a statement of particulars sufficient to define the questions in dispute.

The decision of an MRP is not necessarily final. Section 86(4) of the *White Paper* legislation empowers the Appeals Tribunal to call for the nomination of a second MRP.

We note all these features with strong approval. We record as well our explicit endorsement of section 83(1) which stipulates that, after an MRP has been appointed,

... the Appeals Tribunal shall prepare a list of medical questions to be determined by the Medical Review Panel and such list shall be accompanied by a review of relevant facts, and a summary of applicable law and policy.

We view this as a most important step towards the disentanglement of medical questions from questions of non-medical fact, law, and policy. We therefore recommend that:

*12.6 The provisions of the legislative exposure draft in the White Paper on the Workers' Compensation Act concerning the structure and procedures of Medical Review Panels should be enacted in substantially their present form.*

## **C.2 The Need for Eligibility Rules: The Special Case of Asbestosis and Mesothelioma**

The major institutional changes which we have just endorsed will have salutary consequences for the Board's approach to policy development and for the fairness and equity of all compensation decisions made under the authority of its legislation. Let us now address the need for eligibility rules with respect to asbestos-related diseases, beginning with the distinctive situation posed by asbestosis and mesothelioma.

Industrial disease compensation is a field fraught with complexity. With few exceptions, none of which applies to asbestos-related disease, there is a lengthy period between first exposure and the appearance of disease symptoms. Congenital predispositions may make certain individuals peculiarly susceptible to particular diseases. The greatest difficulty posed in the application of a workers' compensation scheme to many diseases is the work-relatedness of these diseases. Here, the determination of a cause-effect relationship between the disease and its associated industrial process

is clouded by considerations such as lifestyle and the non-occupational environment. In Professor Weiler's words, "Few diseases are specifically industrial, in the sense that exposure to a particular process or substance is both necessary and sufficient for the employee to contract the disease."<sup>57</sup>

In our considered opinion, asbestosis and mesothelioma are clearly distinguishable from other asbestos-related diseases because they are indeed industry-specific. The evidence that exposure to asbestos is the necessary and sufficient cause of asbestosis is uncontested, and while mesotheliomas are known to occur among individuals who have never had occupational exposure to asbestos, their rarity is such that the possibility that an individual who has been occupationally exposed to asbestos might nonetheless have contracted mesothelioma from a source other than the workplace is extremely remote. Mesothelioma has no association with lifestyle factors such as smoking. As for asbestosis, smoking can affect the progression of the fibrotic process and of its clinical manifestations, but does not initiate the process.

In the face of this robust evidence, assessed by us in Chapter 5, we conclude that asbestosis and mesothelioma should be deemed to be quintessentially industrial diseases whenever there is any evidence of occupational exposure to asbestos. Two important considerations flow from this conclusion. The first is that asbestosis and mesothelioma should be compensable within the framework of workers' compensation for as long as it is not totally subsumed by a general compensation scheme. Where occupational exposure to asbestos is known to have taken place, victims of asbestosis or mesothelioma should be treated in equity as if they were victims of industrial accidents. The second consideration is that this principle should be reflected in the workers' compensation legislation of Ontario.

We have already told how the Board came to veer away from the statutory presumption approach to industrial disease that is embodied in section 122(9) and Schedule 3 of the Act. We consider it most advisable that this approach be reactivated with particular regard to asbestosis and mesothelioma. Especially at a time when Ontario, thanks to Professor Weiler's second report on industrial disease, will have the opportunity to debate seriously the merits of a general compensation policy,<sup>58</sup> we deem it most important not to lose sight of the fact that certain industrial diseases pose no significant questions of work-relatedness. A statutory presumption approach to such diseases provides a visible and easily understood line of demarcation. Because an eligibility rule registered in Schedule 3 requires Lieutenant Governor in Council approval, it acquires a formality that

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<sup>57</sup>Ibid., p. 139.

<sup>58</sup>Weiler, *Protecting the Worker from Disability: Challenges for the Eighties*, chap. 3.

yields to claimants or potential claimants maximum certainty that they can qualify for compensation. Again, policy with respect to an industrial disease is most clearly and widely communicated when it is written into a Schedule that accompanies every copy of the legislation. The higher profile accorded to an industrial disease listed in Schedule 3 may assist outreach efforts that seek to encourage potential claimants to come forward.

With respect to the testimony we have received from Board officials, we note that the Executive Director of the Medical Services Division had no knowledge of any Corporate Board deliberations concerning the appropriateness of Schedule 3 for asbestosis and mesothelioma,<sup>59</sup> and that the Vice-Chairman of Administration, under examination by us, agreed that the Board's current approach to mesothelioma in effect coincides with what would be achieved by listing this disease in Schedule 3.<sup>60</sup> In light of all the considerations outlined above, we recommend that:

*12.7 The Workers' Compensation Board, at the earliest opportunity, should advise the Lieutenant Governor in Council to amend Schedule 3 of the Workers' Compensation Act by inserting in the first column (the disease column) the words: "Asbestosis and Mesothelioma"; and in the second column (the process column) the words: "Any process involving the use of asbestos."*

It is apparent from the testimony of the Executive Director of the Board's Medical Services Division that each disease currently listed in Schedule 3 is directly related to the workplace in the sense that the industrial process involved is necessary and sufficient for the employee to contract the disease.<sup>61</sup> In the interest of horizontal equity among claimants for disease compensation, we believe that Schedule 3 should be reviewed to ensure that this is indeed the case with respect not only to diseases that are currently listed but diseases that meet this specification. We therefore recommend that:

*12.8 The Workers' Compensation Board should review Schedule 3 of the Workers' Compensation Act to ensure that it incorporates those diseases whose associated industrial process is necessary and sufficient to cause the disease.*

Our designation of asbestosis and mesothelioma as asbestos-specific diseases leads to two additional considerations with respect to section 122(9)

<sup>59</sup>RCA Transcript, Evidence of Dr. William J. McCracken, 20 July 1982, Volume no. 53, pp. 48-51.

<sup>60</sup>RCA Transcript, Evidence of Mr. Alan G. MacDonald, 11 August 1982, Volume no. 55, pp. 40-41.

<sup>61</sup>RCA Transcript, Evidence of Dr. William J. McCracken, 20 July 1982, Volume no. 53, pp. 49-53.



and Schedule 3. The first is a matter of statutory language. In referring to Schedule 3, section 122(9) opens with the words, "If the employee *at or immediately before* the date of the disablement was employed in any process mentioned in the second column of Schedule 3 . . . ." (Emphasis added.) This language denies the benefit of Schedule 3 to claimants who were employed in the designated process at an earlier time in their employment history. We note with strong approval that the legislative exposure draft in the *White Paper on the Workers' Compensation Act* proposes to remedy what, given the long latency of asbestos-related disease, is evidently deficient statutory language. Section 8(10) of the legislative exposure draft substitutes for the opening words of section 122(9), "If the worker *at or before* the date of disablement was employed in any process mentioned in the second column of Schedule 3 . . . ." We recommend that:

*12.9 In line with the legislative exposure draft in the White Paper on the Workers' Compensation Act, the provisions of Schedule 3 should be applicable to workers who have engaged in a scheduled industrial process at any time in their employment history.*

Our final consideration with respect to section 122(9) concerns the nature of the presumption it generates in favour of a claimant whose disease is covered by Schedule 3. The wording of section 122(9) triggers the presumption if the claimant has the disease named in the disease column of Schedule 3 and was employed in the process designated in the process column of this Schedule. The presumption does not extend to the accuracy of the claimant's disease diagnosis or to whether the claimant's employer engaged in the designated process, but applies once these two matters of fact have been ascertained. It is a rebuttable presumption; that is, it generates in favour of the claimant a presumption the burden of whose refutation must be borne by the employer.

We have considered the submission of the Ontario Federation of Labour that the statutory presumption in favour of the claimant should be irrebuttable, meaning that the validity of a claim which satisfied Schedule 3 could not be challenged.<sup>62</sup> In considering this submission, we have been sensitive to the importance attached by Professor Weiler to a Board relationship with employees and employers that is symmetrical. A particular reason why Professor Weiler favoured symmetry lies in his espousal of stricter experience rating for individual firms. Reserving to Chapter 14 our views on the appropriateness of experience rating in the realm of industrial disease, we join Professor Weiler to the extent that the current Act, by virtue of sections 122(3) and 122(4), gives an employer the right to contend that the claimant's disease was not contracted in his employ. The

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<sup>62</sup>Ontario Federation of Labour, Written submission to the Royal Commission on Asbestos, #78, October 1981, pp. 5-11.



exercise of this right does not challenge the validity of the compensation claim; it simply raises the question of whether any part of the cost of the claim should be charged to the employer.

Our concern is over the appropriateness of any challenge to the validity of a compensation claim in situations where the claimant's disease and the employment process are both in line with the specifications of Schedule 3. In his study, Professor Barth reported that "Employer appeals or dissatisfaction were rather rare, and were limited largely to denials that exposures to asbestos occurred in their employ. These charges did not attack the legitimacy of the claim."<sup>63</sup> Indeed, Professor Barth and Board officials agree that the existing guidelines, as currently administered, create *de facto* an irrebuttable presumption in favour of the employee. Nonetheless, the possibility of a rebuttal exists and to our knowledge is currently being used by an employer, no longer in the asbestos business in Ontario, against claims granted while it was still in operation.<sup>64</sup>

When a disease is so directly related to industrial exposure that it qualifies for Schedule 3, we declare ourselves particularly sensitive to the position of the claimant. The long latency of industrial disease normally adds to the time required to process disease, as distinct from accident, claims. Workers' compensation exists to spare victims the uncertainties of the tort liability system. The relative certainty, to say nothing of the dignity, of the survivors of an industrial disease claimant can be badly undermined by an employer's attempt to rebut the validity of that claim. In this light, we conclude that the presumption in favour of a claimant who satisfies Schedule 3 should be irrebuttable, and accordingly recommend that:

***12.10 Section 122(9) of the Workers' Compensation Act should be amended so as to stipulate an irrebuttable presumption in favour of the claimant.***

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<sup>63</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, pp. 9.21-9.22.

<sup>64</sup>On July 7, 1980, Bendix Automotive of Canada Limited wrote to the Workmen's Compensation Board advising of its intent to appeal the allowance of two mesothelioma claims. Bendix stated that "at the hearing the Company would have the right to introduce independent medical evidence referable to the empirical and medical justification for the diagnosis of mesothelioma and the establishment of a causal connection." Letter from Mr. T. D. Warrington, Vice-Chairman of Appeals, The Workmen's Compensation Board to the Royal Commission on Asbestos, 20 October 1982. However, as of July 1983, the Board had not received any further indication from Bendix that it was proceeding with the appeals, and benefits were continuing in both claims. Letter from Mr. Alex Joma, Secretary, Workers' Compensation Board to the Royal Commission on Asbestos, 25 July 1983.

### C.3 The Need for Eligibility Rules: The Case of Asbestos-Related Carcinomas

Asbestos-related carcinomas constitute a case different from asbestosis and mesothelioma. Such cancers all pose the dilemma associated with the vast run of industrial diseases: the issue of work-relatedness. The incidence of lung, gastrointestinal, and laryngeal cancer is widespread. The contribution of asbestos exposure to these cancers is entangled with the contribution of occupational exposure to other hazardous substances, with environmental factors, and with lifestyle.

If a general compensation scheme, even along lines more modest than those envisaged in Professor Weiler's second report,<sup>65</sup> were to be adopted in Ontario, the most cruel of the problems posed by the issue of work-relatedness would be alleviated. The often tenuous relationship between a newly acquired disease and a job held long ago would no longer have all-or-nothing consequences for compensation. The discrepancy between the large number of disease cases which, as we shall see in Chapter 14, experts believe are likely to be work-related and the small number of claims actually granted by a workers' compensation scheme would recede as a source of concern. The need for outreach programmes which seek, with all their inherent limitations, to identify individuals who may have grounds for seeking workers' compensation would be reduced.

A general compensation scheme is a social policy innovation that can draw support from the above considerations. Such an innovation is so vast, however, that its endorsement or otherwise requires deliberations that lie far beyond our terms of reference. What these terms do enable us to address, however, is the question of what industrial diseases are most appropriately and equitably encompassed by a framework of workers' compensation as distinct from one of general compensation. The broader coverage inherent in a general compensation scheme occasions higher costs and hence exerts a downward push on the level of benefits. This means that when consideration is given, in the realm of disease, to substituting general compensation for workers' compensation, the rationale must be that the universality of lower compensation, whatever the cause of the disease, is preferable to the higher compensation reserved for the select few whose disease was caused by the workplace. On the other hand, when consideration is given to retaining workers' compensation for victims of industrial disease, the rationale must be that the victims of industrial disease are entitled in equity to the same level of compensation as the victims of industrial accidents.

The weight we accord to the latter consideration is already evident from our recommendation that asbestosis and mesothelioma should be

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<sup>65</sup>Weiler, *Protecting the Worker from Disability: Challenges for the Eighties*, chap. 3.

listed in Schedule 3. These are instances where we are satisfied that the relationship between disease and occupational exposure is substantially clear. The case of asbestos-related cancers is different. It may be that, when all the stipulations incorporated in the current guidelines are met, there are grounds for a strong presumption that the cancer was asbestos-induced. However, the issue of lifestyle remains clearly present, given in particular the much higher incidence of lung cancer among asbestos workers who are smokers.

Unless it were to subsume workers' compensation altogether, a general compensation scheme will not obviate the need for eligibility rules that will seek to delineate those diseases that should in equity be subject to workers' compensation. Where exposure to a substance in an industrial process is necessary and sufficient for the employee to contract the disease, the eligibility rules should be incorporated into the workers' compensation statute through Schedule 3. Where the grounds are less compelling, eligibility rules more similar to the current Board guidelines would be suitable. The large number of remaining instances could properly be left to the general compensation scheme. The setting of the eligibility rules places a premium on judgement.

The matter of judgement, of course, is immensely more consequential and delicate in the absence of a general compensation scheme. In prescribing a process for devising eligibility rules, we do not consider ourselves entitled to assume that such a major social policy innovation will soon be in place. And even if general compensation became a reality, a formal, systematic, and comprehensive mechanism to design and review the eligibility rules that structure the Board's discretion would remain imperative so long as a separate category of workers' compensation remained in effect.

As we view them, eligibility rules, by structuring the Board's discretion in the matter of industrial disease compensation, serve three functions. The first is to promote certainty and simplicity in claims adjudication by declaring that any claims that fall within their terms will be compensated, subject only to a verification of the facts of each individual case. The second is to promote horizontal equity (the equal treatment of equals) by ensuring that similarly situated individuals, namely, all claimants who fall within the rules, will be treated similarly. The third is to serve as building-blocks of public policy with respect to industrial disease in that eligibility rules are a declaration that a specific disease under stipulated circumstances will be regarded as compensable.

We expressly wish to underline the importance we attach to these three functions by using the more formal term "eligibility rules" to encompass what the Board currently calls "guidelines." Especially because eligibility rules involve equity among citizens and constitute declarations of



public policy, we urge that they should be determined by an open process. To be sure, openness may also enhance the technical quality of the rules in that a wider array of expert views may be brought to bear on their content. The contrary view is that openness will dilute the quality of the guidelines because they will be the outcome of conciliation between conflicting vested interests. Whatever the merits of these contending views, considerations of equity and public policy speak compellingly in favour of an open process.

To formalize and open the process of devising and reviewing eligibility rules, we advocate the creation, by statutory amendment to the *Workers' Compensation Act*, of an Advisory Council on Industrial Disease Policy (ACIDP). Our choice of name is explicit and deliberate for two reasons. First, the name is meant to emphasize that eligibility rules are indeed matters of public policy. Second, it is intended to convey that any of a number of industrial disease matters should properly come within the Council's purview. We shall develop examples of such matters in Chapter 14.

The Advisory Council on Industrial Disease Policy should have an arm's length relationship to the Workers' Compensation Board. We make the gratifying observation that the Board's Vice-Chairman of Administration explicitly endorsed the concept of such a body in his testimony before us.<sup>66</sup> The ACIDP should be composed of a Chairman and not more than eight part-time members appointed by the Lieutenant Governor in Council. The members should be representative of the views of labour, management, the public, and the medical-scientific community. We specify this breadth of membership because the formulation of advice on industrial disease policy is as much a matter of pragmatic judgement as of scientific judgement.

In the matter of eligibility rules, so as to ensure that the most relevant scientific judgement will be brought to bear, the ACIDP should be empowered to appoint disease-specific "Panels" composed of a small number (normally two or three) of medical-scientific experts. Once constituted, a Panel would cause a study or studies to be undertaken by recognized specialists, here following a step the Board has taken in developing its guidelines. Upon receiving the study, the Panel would draft suggestions for an eligibility rule and convey these to the ACIDP along with the study. If the Panel could not find grounds for an eligibility rule, it would so inform the ACIDP, stating the reasons in its report.

We advocate that written comments on the Panel's report should be solicited by the ACIDP. The ACIDP would consider these comments but, so that the rule-setting process not be overly time-consuming, it should not

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<sup>66</sup>RCA Transcript, Evidence of Mr. Alan G. MacDonald, 11 August 1982, Volume no. 55, p. 16.

be obligated to hold hearings. The ACIDP would then submit its formal advice to the Corporate Board and include in its advice either a specific eligibility rule or the reasons why such a rule should not be promulgated. Both the advice and the Board's response should be public, the advice being published at the same time as the response. The Board should be able to accept, reject, or ask for reconsideration. In the latter two eventualities, the Board's published response should state reasons.

While we view an arm's length relationship between the ACIDP and the Corporate Board as essential, we consider open linkages between the two to be equally necessary. The importance of these linkages rests on the Board's responsibility for claims adjudication. It is the case-by-case determination of claims that appear unusual or historically new which can often unearth the initial patterns of information that in time suggest the possibility of structuring discretion through an eligibility rule. For this reason, the legislation should specify that the Board should be able to request the ACIDP to initiate the contemplation of an eligibility rule. Furthermore, eligibility rules should be drafted in a manner that is sensitive to the realities of the adjudication process; they should be understandable and understood by both claimants and adjudicators. Again, in that these rules are building-blocks of industrial disease policy, they should not be divorced from first-hand knowledge of the overall policies and practices of the Board. For these reasons, we advocate that the Chairman of the ACIDP be an *ex officio* Director of the Corporate Board.

In light of all the above considerations, we recommend that:

**12.11** *The Workers' Compensation Act should be amended to provide for the creation of an Advisory Council on Industrial Disease Policy responsible for advising the Corporate Board on eligibility rules regarding disease compensation and on other matters of industrial disease policy. The Council's advice should be developed either as a matter of its own initiative or in response to an explicit request from the Corporate Board. The Council should be appointed by the Lieutenant Governor in Council and be composed of a Chairman, who would be an *ex officio* Director of the Corporate Board, and not more than eight members appointed for stated terms. The legislation should authorize the Council to appoint expert Panels from time to time and should stipulate that both the Council's advice and the Corporate Board's response be public documents.*

With respect to the Board's current guidelines on asbestos-related cancers, we explicitly observed earlier in this chapter that whatever the specific merits of their content, they have served to structure the Board's discretion. Furthermore, the Board's benefit of doubt policy appears to have been applied by adjudicators to claims outside the guidelines in a manner that does not reveal a negative predisposition. We have no doubt, how-

ever, that the current guidelines will be improved when they are transformed into eligibility rules through the process we have prescribed. By no means do we confine this observation to the medical content of the guidelines. Thus, for example, all three guidelines refer to the need to establish a "clear and adequate" history of exposure to asbestos dust. In both his study and his testimony, Professor Barth openly wondered about the meaning of the words "clear and adequate."<sup>67</sup> The Executive Director of the Board's Medical Services Division, in his written response to the Barth study, defended these words as superior to such terms as "significant," "definite," "definitive," or "sufficient."<sup>68</sup> Whatever the merits of this response, we view both the choice and meaning of all such terms as matters that demand precisely the perspectives of pragmatic judgement that the Advisory Council on Industrial Disease Policy can bring to the setting of eligibility rules through the open process we have prescribed. Accordingly, we recommend that:

*12.12 The Advisory Council on Industrial Disease Policy should, as a matter of high priority, transform the current Board guidelines on asbestos-related cancers into eligibility rules in accordance with the process prescribed in this Report.*

#### **C.4 Breaking New Ground: The Eligibility of Family Members for Workers' Compensation**

In Chapter 5 we assess the evidence concerning the possibility that the family members of an asbestos worker can contract asbestos-related disease from the dust that the worker brings into his domicile. The world health literature reveals no known cases of asbestosis among family members. This is consistent with the conclusion that asbestosis does not develop at low levels of occupational exposure. There may be instances of cancer that could arouse suspicion of family exposure to asbestos, but the suspicion will be in the realm of hypothetical possibility. This is consistent with the extent to which occupational exposure to asbestos, especially at lower levels, leaves the issue of the work-relatedness of cancer entangled with other sources of causation. This leaves mesothelioma. Unhappily, as Chapter 5 makes clear, the incidence of this disease among family members of asbestos workers is clearly recorded in the health literature.

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<sup>67</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, pp. 5.12, 5.16; and RCA Transcript, Evidence of Professor Peter S. Barth, 24 August 1982, Volume no. 57, p. 81.

<sup>68</sup>McCracken, "Comments and Critique on a Study Prepared by Peter S. Barth, *Workers' Compensation and Asbestos in Ontario*," p. 6. See also, letter from Peter S. Barth, Professor of Economics, University of Connecticut to the Royal Commission on Asbestos, 2 September 1982.



Neither our research nor our testimony has unearthed a case of mesothelioma in Ontario that could be clearly attributed to family exposure. Disturbingly, however, the Board's Chest Disease Specialist, Dr. Douglas W. Dyer, shared with us during testimony his suspicion that a mesothelioma claim he had recently examined might in fact be a case of family exposure. The claimant had worked for the same company as his father, who himself had worked for this company for a number of years. But the claimant's (i.e., the son's) latency period "... was more in keeping with a family exposure than his actual work exposure."<sup>69</sup> In this instance, the claim was granted in line with the Board's practice of compensating mesothelioma victims whenever it has evidence of occupational exposure to asbestos.

Should Ontario break new ground by extending workers' compensation to the members of workers' families who contract disease from a substance to which the worker has been occupationally exposed? To our knowledge, the asbestos-related compensation bills before the United States Congress do not currently envisage coverage for family members of asbestos workers. The Johns-Manville Corporation has lobbied the Congress to extend coverage to family members for the apparent purpose of limiting its tort liability.<sup>70</sup> If nothing else, this is a potent reminder that workers' compensation serves the interests of business fully as well as the interests of labour.

The fundamental point on which we base our own considerations is the workplace-relatedness of a disease. We have declared ourselves satisfied that the evidence linking occupational exposure to asbestos with mesothelioma is sufficiently robust to warrant the inclusion of mesothelioma in Schedule 3. Our assessment of the medical evidence in Chapter 5 is such that, at least on the basis of balance of probabilities, we would associate a mesothelioma diagnosed in a family member who had shared the domicile of a worker while that worker was occupationally exposed to asbestos with such occupational exposure. In equity, we conclude that workers' compensation should be extended, in mesothelioma cases, to family members who have been domiciled with an asbestos-exposed worker at the time of the worker's exposure. This conclusion is in line with other opinions, notably that of Professor Barth.<sup>71</sup>

Having reached this conclusion, we address the practical question of the level of compensation for which family members should be eligible. In

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<sup>69</sup>RCA Transcript, Dr. Douglas W. Dyer, during evidence of Mr. John F. McDonald, 14 July 1982, Volume no. 49, p. 154.

<sup>70</sup>RCA Transcript, Evidence of Professor Peter S. Barth, 24 August 1982, Volume no. 57, pp. 94-95.

<sup>71</sup>*Ibid.*, p. 94. See also, Peter S. Barth with H. Allan Hunt, *Workers' Compensation and Work-Related Illnesses and Diseases* (Cambridge, Mass.: The MIT Press, 1980).

all instances, given the workplace relatedness of mesothelioma, equity demands that the level of compensation flowing from the death of a family member from this disease should be the same as the compensation that flows under the Act from the death of an employee. The present Act does not relate survivor benefits to employee income, but such a relationship is envisaged in the *White Paper*. Should such a relationship be enacted, the income of the deceased family member should be deemed the employee's income for the purpose of calculating survivor benefits.

As for the question of financing the benefits awarded, we are loath to envisage a situation where the cost of family member claims must invariably be borne by the Board's accident fund and apportioned among employers generally. The contracting of an industrial disease by a family member, if it ever occurs, will be a rare and poignantly tragic occasion; even though the resulting costs will be trivial in relation to global compensation costs, such an instance should be highlighted because of its exceptional nature. It follows that the Board should acquire, by amendment to the *Workers' Compensation Act*, a statutory right to recover the costs of any benefits paid with respect to family members from the individual employer involved.

In line with the above considerations, we recommend that:

**12.13 *The Workers' Compensation Act should be amended so as to:***

- (i) entitle individuals who contract mesothelioma, and are family members of asbestos workers who were domiciled with these workers at the time such workers were occupationally exposed to asbestos, to the same compensation benefits as the Act accords to employees; and*
- (ii) vest in the Workers' Compensation Board a statutory right to recover the costs of benefits paid to a family member of an asbestos worker from the employer of that worker.*

## **Appendix to Chapter 12**

### **Ontario Workers' Compensation Board**

### **Guidelines for Adjudication**

#### **Lung Cancer in Asbestos Workers: Guidelines for Adjudication**

1. That lung cancer in asbestos workers be accepted as an industrial disease under Section 118 [now Section 122] and Section 1(1)(l) [now Section 1(l)(n)] of the Act as peculiar to and characteristic of a process, trade, or occupation involving exposure to asbestos.

2 . That based on medical studies, lung cancer claims be favourably considered when the following circumstances apply:

2.1 There is a clear and adequate history of at least 10 years' occupational exposure to asbestos.

2.2 There is a minimum interval of 10 years between first exposure to asbestos and the appearance of lung cancer.

2.3 Claims which do not meet the guidelines in 2.1 and 2.2 should be individually judged on their own merit having regard to the intensity of exposure and other factors peculiar to the individual case. The benefit of reasonable doubt applies.

NOTE: These guidelines do not apply to mesothelioma claims.

Approved by the Board April 13, 1976.



## **Mesothelioma in Asbestos Workers: Guidelines for Adjudication**

1. That mesothelioma in asbestos workers be accepted under Section 118 [now Section 122] and Section 1(1)(l) [now Section 1(1)(n)] of the Act as peculiar to and characteristic of a process, trade, or occupation involving exposure to asbestos.

That based on medical studies, mesothelioma claims be favourably considered when the following circumstances apply:

1.1 There is a clear and adequate history of at least 10 years' occupational exposure to asbestos.

and —

1.2 There is a minimum interval of 15 years between first exposure to asbestos and the appearance of mesothelioma.

1.3 Claims which do not meet the guidelines in 1.1 and 1.2 should be individually judged on their own merit having regard to the intensity of exposure and other factors peculiar to the individual case. Consideration will be given where it seems evident that the mesothelioma cancer resulted from occupational exposure to asbestos. The benefit of reasonable doubt applies.

Approved by the Board April 13, 1976.

## **Gastrointestinal Cancer — Asbestos Workers: Guidelines for Adjudication**

1. That gastrointestinal cancer in asbestos workers be accepted as an industrial disease under Section 118 [now Section 122] and Section 1(1)(l) [now Section 1(1)(n)] of the Act as peculiar to and characteristic of a process, trade, or occupation involving exposure to asbestos.

2. That based on medical studies, gastrointestinal cancer (esophagus, stomach, small bowel, colon, and rectum) be favourably considered when the following circumstances apply:

2.1 There is a clear and adequate history of occupational exposure to asbestos dust, and while such occupational exposure cannot be quantitatively described, it should be of a continuous and repetitive nature and should represent or be a manifestation of the major component of the occupational activity.

2.2 There is a minimal interval of 20 years between first exposure to asbestos and the diagnosis of the gastrointestinal cancer.

2.3 That all primary cancers associated with the esophagus, stomach, small bowel, colon, and rectum be included in the classification of gastrointestinal cancers.

2.4 That no distinction be given as to the site of the cancer in assessing the merit of a claim.

2.5 Claims which do not meet the guidelines in 2.1, 2.2, 2.3, 2.4 should be individually judged on their own merit having regard to the nature of the occupation, the extent of the exposure, and other factors peculiar to the individual case. Consideration will be given where it seems evident that the gastrointestinal cancer resulted from occupational exposure to asbestos. The benefit of reasonable doubt applies.

Approved by the Board October 7, 1976.

## **Guidelines for Adjudication of Claims for Laryngeal Cancer in Industry Related to Asbestos Exposure and Nickel Exposure**

### **Recommendation**

1. Laryngeal cancer in workers occupationally exposed to asbestos fibre and/or to nickel aerosol in specific industrial processes be accepted as an industrial disease under Section 118 [now Section 122] and Section 1(1)(l) [now Section 1(1)(n)] of the Act as peculiar to and characteristic of such processes.

2. Based on medical studies, claims for laryngeal cancer be favourably considered under the following circumstances:

2.1 Any industrial process in the nickel industry which produces nickel in aerosol dispersion whether in combined or elemental form.

This may include the following:

- Roasting
- Smelting
- Refining
- Welding
- Electroplating.

2.2 Any occupation in which there is a clear and adequate history of occupational exposure to asbestos dust, and while such occupational exposure cannot be quantitatively described, it should be of a continuous and repetitive nature and should represent or be a manifestation of the major component of the occupational activity.

3. Duration of Exposure

3.1 *Nickel* — an accumulative minimum of 15 years' exposure to nickel aerosols as defined in 2.1.

3.2 *Asbestos* — an accumulative minimum of 10 years' proven exposure as defined under 2.2.

3.3 *Nickel and Asbestos* — an accumulative minimum of 7.5 years' nickel as well as 5 years' asbestos exposures in the case of dual exposure.

4. Inception Period

4.1 *Nickel* — this shall be a minimum of 20 years from the commencement of the first hazardous exposure.

4.2 *Asbestos* — this shall be a minimum of 20 years from the commencement of the first hazardous exposure.

4.3 *Nickel and Asbestos* — this shall be a minimum of 15 years from the commencement of the first hazardous exposure.

5. Claims which do not meet the guidelines should be individually judged on their own merit having regard to the intensity of exposure and other factors peculiar to the individual case. The benefit of reasonable doubt applies.

Approved by the Board May 4, 1978.

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SOURCE: The Workmen's Compensation Board, Ontario, Written submission to the Royal Commission on Asbestos, #69, 15 June 1981, pp. 23, 25, 30, 43.



## **Chapter 13   Processing Asbestos-Related Claims: Procedural and Substantive Issues**

### **A. The Claims Process: An Overview**

Asbestos-related claims that reach the Workers' Compensation Board originate from a variety of sources. Of the claims surveyed by Professor Peter S. Barth in his study for this Commission, 41% originated from employees or their survivors, 31% from unions, 10% from employers, and 18% from physicians.<sup>1</sup> The framework within which the Board handles asbestos-related claims differs depending on whether the claim involves: (i) cancer or mesothelioma; (ii) asbestosis; or (iii) the death of an individual who was in receipt of a permanent disability pension for asbestosis at the time of death. We shall begin by considering the framework for processing cancer and mesothelioma claims. This is the simplest of the three processing frameworks. It involves the guidelines and the benefit of doubt policy described in Chapter 12. Also, it shares important elements in common with the other two claim categories and hence provides an introductory overview of the process followed by all asbestos-related claims.

In common with the other categories, cancer and mesothelioma claims pass initially into the Claims Adjudication Branch of the Board's Claims Services Division. There, a claims adjudicator in the Industrial Diseases and Dependants Section proceeds to build a file by assembling information from the claimant, the claimant's physician, and the employer. Prescribed forms are available for all three parties. Particularly in cancer cases, the adjudicator may file a physician's letter or report instead of a

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<sup>1</sup>Peter S. Barth, *Workers' Compensation and Asbestos in Ontario*, Royal Commission on Asbestos Study Series, no. 2 (Toronto: Royal Commission on Asbestos, 1982), pp. 2.1-2.2.

form.<sup>2</sup> For reasons upon which Professor Barth elaborates, the employer form may be a source of delay if the claimant has indicated asbestos exposure in more than one employment, or if the employer no longer exists or has inadequate records from which to establish exposure.<sup>3</sup> In such cases, the Claims Adjudication Branch can call upon the resources of the Investigations Services Section of the Claims Administrative Services Branch.

Once compiled, the claim file moves from the Claims Adjudication Branch to the Medical Branch of the Medical Services Division. There it passes into the hands of one of two Board physicians: Dr. Charles Stewart, whose title is Chest Disease Consultant, or Dr. Douglas W. Dyer, whose title is Chest Disease Specialist. The Board physician assesses the evidence regarding asbestos exposure and may request additional information from the claims adjudicator or the Investigations Services Section. He may himself, as did Dr. Dyer in the celebrated case of the war-time Ottawa gas mask workers, undertake extraordinary efforts to identify both the source of asbestos exposure and other potential claimants.<sup>4</sup> The other function of the Board physician is to assess whether the claimant's diagnosis has been correctly established by reviewing the opinion of the claimant's physician, hospital records, and tissue records. In a number of cases, the Board physician may refer pathologists' slides or uncut tissue to Dr. Alexander C. Ritchie, Professor of Pathology at the University of Toronto, for an expert opinion. Finally, the Board physician determines whether or not the diagnosis and the exposure indicate that the claim is one of asbestos-caused cancer or mesothelioma and so informs the Claims Adjudication Branch.

If the finding of the Board physician is positive, the claims adjudicator allows the claim. Given the terminal nature of cancer and mesothelioma, the claims that are allowed almost invariably involve survivor benefits. According to Professor Barth, about one in six of the cancer claims allowed have involved some temporary total or permanent disability benefits as well as survivor benefits.<sup>5</sup> The claims adjudicator calculates the amount of the disability or survivor benefits payable under the provisions of the *Workers' Compensation Act*, and makes the award.

If the Board physician has made a negative finding, the claims adjudicator reports to his team co-ordinator within the Industrial Diseases and Dependents Section of the Claims Adjudication Branch.<sup>6</sup> The team co-

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<sup>2</sup>Ontario, Royal Commission on Asbestos, Transcript of Public Hearings [hereafter RCA Transcript], Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, pp. 68–69.

<sup>3</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, p. 2.4.

<sup>4</sup>RCA Transcript, Evidence of Dr. Douglas W. Dyer, 16 July 1982, Volume no. 51, pp. 108–119.

<sup>5</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, p. 6.42.

<sup>6</sup>RCA Transcript, Evidence of Mr. John F. McDonald, 13 July 1982, Volume no. 48, p. 42.

ordinator may overrule the adjudicator or direct that further inquiry take place, but Professor Barth found only one instance in which a negative finding that involved an asbestos-related disease was challenged at the level of the Claims Adjudication Branch.<sup>7</sup> However, this Branch, under Board policy, does not have the authority to deny a claim on the basis of a negative finding. The claim must therefore be sent to the Claims Review Branch before it can be officially denied. Professor Barth found virtually no reversals of negative findings at the level of the Claims Review Branch, and the Board's Chest Disease Consultant could recall no instance in which this had occurred.<sup>8</sup> Upon confirmation by the Claims Review Branch, the claimant (or the claimant's survivor) is notified that the claim has been denied. At this point, the primary adjudication phase of the claims process has ended.

An unsuccessful claim that is appealed will be reviewed by an appeals adjudicator under the Board's Registrar of Appeals. This is the first echelon of the Board's appeal structure. Whether or not the appeals adjudicator holds a hearing, he refers the evidence before him back to the Medical Services Division. We note that in his testimony the Board's Chest Disease Consultant, Dr. Charles Stewart, could not bring to mind a cancer claim concerning which he had varied his original opinion as a result of the evidence before the appeals adjudicator.<sup>9</sup> Furthermore, he could recall only one occasion on which his initial recommendation had been reversed by an appeals adjudicator, and in this instance the claim was not one involving asbestos-related cancer.<sup>10</sup>

We have already recommended, in Chapter 12, that the appeals structure above the first echelon of appeals should be completely overhauled. Therefore, our descriptive overview can appropriately terminate at the level of the appeals adjudicator.

What stands out from this overview is the dominant role, duly noted by Professor Barth, of the Board's physicians. In large part, we view this as flowing naturally from the simple fact that diagnosing cancer, mesothelioma, or any disease is a matter of medical knowledge. Establishing exposure to asbestos, for its part, is not intrinsically a medical matter. We acknowledge, however, that medical knowledge is of enormous assistance in understanding the literature which associates disease with hazardous workplace substances. It is this literature in turn that has infused the development of the Board's cancer and mesothelioma guidelines, with whose terms the Board physicians are intimately acquainted. Our judgement is to accept as realistic the likelihood that these physicians will dominate the primary

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<sup>7</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, p. 2.6.

<sup>8</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, p. 71.

<sup>9</sup>*Ibid.*, p. 72.

<sup>10</sup>*Ibid.*, pp. 126-127.



adjudication of mesothelioma and cancer claims and to attempt to structure this dominant role rather than undermine it.

The degree of structuring that we deem desirable is basically encompassed by the changes we have prescribed in Chapter 12, notably: (i) making mesothelioma a scheduled disease; (ii) bringing eligibility rules for cancer under the purview of an Advisory Council on Industrial Disease Policy; (iii) giving claimants statutory access to any and all medical records; and (iv) replacing the current upper echelon of the Board's appeal structure with a Workers' Compensation Appeals Tribunal that incorporates Medical Review Panels.

Our descriptive overview of the claims process gives us further reason to emphasize the importance of Medical Review Panels. We look on these repositories of outside medical knowledge as the necessary means of countervailing the enormous internal influence of Board physicians in the primary adjudication process. Also, we permit ourselves to expect that as written appeals decisions, coupled with Medical Review Panels, grow in volume, the Claims Review Branch and the first-echelon appeals adjudicators will assimilate information that should make them more knowledgeable reviewers of the findings of Board physicians.

Even under our recommendations, it is our view that claims for cancer, other than mesothelioma, will remain the most problematic area of asbestos-related disease compensation. However constructively eligibility rules may be refined, there will be a need to ensure that Board officials adjudicate claims that lie outside the rules with an open mind. We cite in Chapter 12 quantitative evidence which indicates that Board physicians have not approached asbestos-related lung cancer claims with a negative mind-set. We take this as indicating that the Board's benefit of doubt policy has influenced its physicians. Whether this policy is being consistently followed is another matter. While we have not ourselves reviewed the details of individual claims, we acknowledge that the impartial reassessment of individual cancer cases conducted by Dr. Annalee Yassi, for Professor Paul C. Weiler's inquiry into workers' compensation in Ontario, reveals outcomes whose consistency she questions.<sup>11</sup> The problem may lie in the fact that the content of the benefit of doubt policy is not explicitly spelled out. We shall address this question at the end of this chapter. Presently, let us turn to a claims category that raises peculiar issues of procedure and substance: asbestosis.

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<sup>11</sup> Annalee Yassi, "Occupational Disease and Workers' Compensation in Ontario: A Report for the Weiler Inquiry," Toronto, Ontario Ministry of Labour, in press.

## B. Processing Asbestosis Claims

### B.1 Introduction

Asbestosis is an asbestos-specific form of pneumoconiosis that is irreversible and normally progressive. Asbestosis can be a direct cause of death; more generally, its victims are susceptible to death from related causes and have a decreased life expectancy. Dr. Murray M. Finkelstein of the Ministry of Labour, the principal author of a study of Ontario workers who have been compensated for asbestosis, testified before us that the survival rate of compensated asbestotics was only 70% of that expected in Ontario males of identical age five years after compensation and 53%, ten years after compensation.<sup>12</sup>

Its implications for life expectancy aside, asbestosis is a chronic and disabling condition. This means that in the realm of compensation, asbestosis constitutes a classic instance of a workplace disease whose sufferers are eligible for *partial* disability benefits. It follows that the compensation of asbestosis requires an important additional judgement: besides exposure and diagnosis, the quantum (percentage) of impairment must be determined.

All of the officials involved in the processing of cancer and mesothelioma claims reappear in the processing of asbestosis claims, namely, the adjudicators of the Claims Adjudication Branch, the Board physicians of the Medical Services Division, the personnel of the Claims Review Branch, and the appeals adjudicators. However, two additional participants play important roles: the Chest Surveillance Programme of the Occupational Health Branch of the Ministry of Labour and the Board's Advisory Committee on Occupational Chest Diseases (AC OCD). These roles overlap. Furthermore, the role of the AC OCD is an optional one in the sense that the physicians of the Medical Services Division may choose not to send a claim to the AC OCD. Let us begin by situating all this in the context of the claims process.

### B.2 The Chest Surveillance Programme, the Medical Services Division, and the Advisory Committee on Occupational Chest Diseases

An asbestosis claim, like other disease claims, reaches the Board's Medical Services Division once a file has been compiled by the Claims

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<sup>12</sup>RCA Transcript, Evidence of Dr. Murray M. Finkelstein, 28 July 1981, Volume no. 24, p. 12. See also, Murray M. Finkelstein, Robert Kusiak, and George Suranyi, "Mortality Among Workers Receiving Compensation for Asbestosis in Ontario," *Canadian Medical Association Journal* 125 (1 August 1981): 259-262.

Adjudication Branch. The processing of such a claim is subject to what the Board variously calls “procedural guidelines”<sup>13</sup> or “guidelines for adjudication.”<sup>14</sup> In effect, these call for: (i) a “clear and adequate history” of occupational exposure to asbestos; (ii) a diagnosis of “frank asbestosis”; and (iii) the establishment of “the degree of functional impairment” by the ACOCD.

The Board physician begins by addressing the evidence regarding asbestos exposure and the nature of the diagnosis. At this point, the Chest Surveillance Programme enters the scene.

Originally through the Ministry of Health, latterly through the Ministry of Labour, this Programme has surveyed asbestos workers since 1947 on regular cycles. The Programme routinely forwards individual reports on each worker to the plant physician.<sup>15</sup> Chest Surveillance reports will therefore commonly accompany the physician’s form that is in the asbestosis claimant’s file. If they do not, the Board physician may search for relevant copies of the reports. These copies are filed in the Medical Services Branch by company or industry,<sup>16</sup> but are not available to the Claims Adjudication Branch.<sup>17</sup>

Whether or not he has Chest Surveillance reports, the material the Board physician is seeking to assess is x-ray evidence and evidence of pulmonary function deficiency. In the absence of Chest Surveillance reports, or by way of supplementing them, such evidence may have come from the claimant’s physician or from a hospital radiologist or respirologist.<sup>18</sup> On occasion the Board physician will himself procure x-ray reports.<sup>19</sup>

At this juncture the Board physician exercises a choice. He may forward the claim to the ACOCD, or he may return it to the claims adjudicator with a negative finding. Because the Chest Surveillance Programme encompasses all employers known by the Ministry of Labour to be engaged in industrial processes that involve the use of asbestos, its reports are most helpful in establishing the fact that the worker has been exposed to this substance. Furthermore, the Programme’s x-ray evidence and pulmonary function tests lend “great strength”<sup>20</sup> to the Board physician’s assessment

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<sup>13</sup>The Workmen’s Compensation Board, Ontario, Written submission to the Royal Commission on Asbestos, #69, 15 June 1981, p. 6.

<sup>14</sup>Ontario, Royal Commission on Asbestos, Exhibit IV-1 [hereafter RCA Exhibit], in RCA Transcript, Evidence of Mr. John F. McDonald, 13 July 1982, Volume no. 48: The Workmen’s Compensation Board, Ontario, Assorted Policy Statements and Forms.

<sup>15</sup>Ontario, Ministry of Labour, Written submission to the Royal Commission on Asbestos, #43, February 1981, p. 59.

<sup>16</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, p. 146.

<sup>17</sup>Ibid., p. 126.

<sup>18</sup>Ibid., pp. 12–13.

<sup>19</sup>Ibid., p. 25.

<sup>20</sup>Ibid., p. 13.



of a possible diagnosis of asbestosis. As likely as not, Chest Surveillance reports may be associated with a negative finding by the Board physician. After sampling 40 claims that had been returned to the claims adjudicator with a negative finding, the Board's Chest Disease Consultant testified before us that 27 included Chest Surveillance reports.<sup>21</sup>

This testimony offers a counterpoint to Professor Barth's observation that a claim is less likely to evoke a positive response from Board physicians if the only medical evidence involved has come from the claimant's physician.<sup>22</sup> More importantly, in our view, it highlights the Board physician's role as the gatekeeper to the ACOCD. Whatever the source of the medical evidence in the file, it is clear that the Board physician possesses enormous discretion with respect to the disposal of an asbestosis claim. Professor Barth's study supplied data covering 391 asbestosis claims initiated from 1970 through 1980; 109 of these claims were the subject of negative findings by Board physicians and not forwarded to the ACOCD.<sup>23</sup>

To our knowledge, a negative finding by the Board physician is invariably accepted by the claims adjudicator. Unlike the situation that prevails in cancer claims, however, the Claims Review Branch may question the Board physician's negative finding. Of course, what is involved is not whether to deny or grant the claim, but whether to deny the claim or forward it to the ACOCD. The Board's Chest Disease Consultant testified that the Claims Review Branch, in questioning a negative recommendation, "... may have some comment on the duration of exposure, or they may point out that the family doctor has strong views or something."<sup>24</sup> If his negative recommendation is questioned, the Board physician will "... not put up any fight ... if there was insistence,"<sup>25</sup> and he will forward the questioned claim to the ACOCD. Let us examine the ACOCD.

The ACOCD acquired its name in 1968, but at that time already had a prior existence of forty years' duration as the Silicosis Referee Board. By 1968, the Workers' Compensation Board had long made it a practice to send to the Silicosis Referee Board claims involving chest diseases other than silicosis, and the change of name was executed to reflect this fact and also to confirm that the work was more specifically advisory than similar to that of a medical referee as defined in the *Workers' Compensation Act*.<sup>26</sup> In addition to asbestosis, the ACOCD deals with any claims that may relate to

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<sup>21</sup>Ibid., p. 8.

<sup>22</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, pp. 2.14-2.15.

<sup>23</sup>Ibid., p. 6.27.

<sup>24</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, p. 31.

<sup>25</sup>Ibid.

<sup>26</sup>R.S.O. 1980, c. 539. Medical referees are covered by ss. 1(1)(s) and 22 of the Act; the current statutory basis of the ACOCD is found in s. 71(3)(g). See RCA Transcript, Evidence of Mr. John F. McDonald, 13 July 1982, Volume no. 48, p. 59.

mineral dust disease, for example, silicosis, talcosis, hard-metal disease, nepheline syenite, pneumoconiosis, Shaver's Disease, and bauxite pneumoconiosis.<sup>27</sup> It also deals with certain trauma cases involving pulmonary injury.<sup>28</sup> According to the Board's Chest Disease Consultant, the ACOCD processes 420 to 450 claims per year.<sup>29</sup> On the basis of Professor Barth's data, 5 to 10% of these claims would be for asbestosis.<sup>30</sup>

The membership of the ACOCD is appointed by the Executive Director of the Board's Medical Services Division for indefinite terms of office.<sup>31</sup> It numbers seven individuals, although there is confusion regarding who is a member and who is a consultant.<sup>32</sup> Of the physicians who were members of the ACOCD during the 1970s, three were also active in the Chest Surveillance Programme. The significance of this overlap will become apparent as our narrative proceeds.

Upon receiving the claims file from the Board physician, the ACOCD has two tasks. The first is to confirm or deny a diagnosis of asbestosis. The second, which accompanies an affirmative diagnosis, is to establish the quantum (percentage) of the claimant's impairment. Of course, the Board physician, in his gatekeeper role, has already made a negative diagnosis for the asbestosis claims he has not forwarded to the ACOCD. The ACOCD's first task is therefore pertinent only to a subset of the asbestosis claims that have reached the Board (according to Professor Barth's data, 282 of the 391 claims initiated from 1970 to 1980).<sup>33</sup>

The ACOCD's standard procedure begins with a clinical examination of the claimant, conducted by one of the Committee's members. On any initial claim, the examination is always held at the Medical Service Chest Clinic maintained by the Occupational Health Branch of the Ministry of Labour at 880 Bay Street in Toronto. (This Clinic was formerly called the Chest Diseases Clinic and was located at 50 Grosvenor Street in Toronto.)<sup>34</sup>

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<sup>27</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, p. 32.

<sup>28</sup>Ibid., p. 43.

<sup>29</sup>Ibid.

<sup>30</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, p. 6.27.

<sup>31</sup>The indefinite term of office can be tantamount to a lifetime appointment; one physician held office from 1929 to 1973, when he retired. See RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, pp. 41–42.

<sup>32</sup>The Board's Chest Disease Consultant considers the five physicians on the ACOCD who regularly examine patients and two others who join in its meetings to be members of the Committee. See RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, p. 37. One of the physicians in the latter category, Dr. Cameron C. Gray, considers himself a consultant rather than a member because he does not examine claimants but only meets with the Committee. The other physician who is sometimes referred to as a consultant, Dr. David C.F. Muir, occasionally examines claimants. See RCA Transcript, Evidence of Dr. Cameron C. Gray, 16 July 1982, Volume no. 51, pp. 4–5.

<sup>33</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, p. 6.27.

<sup>34</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 June 1982, Volume no. 50, p. 44.

It will be recalled that the Occupational Health Branch is responsible for the Chest Surveillance Programme.

The clinical examination takes about three hours.<sup>35</sup> The taking of the claimant's history may add to the exposure information that is already on file.<sup>36</sup> The claimant is physically examined and x-rayed. Pulmonary function tests and exercise tests are given. If the examining physician deems it necessary, he may refer the claimant to a hospital for a lung biopsy.<sup>37</sup> Testifying on the basis of some ten years' experience as consultant to the ACOCD, Dr. Cameron C. Gray told us: "... I have always been impressed with the detail that has been taken and recorded by the examining physician with respect to the symptoms, emphasizing those symptoms that have to do, of course, with the chest — shortness of breath being the one that's probably the most stressed — but also cough sputum, pain, wheezing, so on."<sup>38</sup>

The members (and consultants) of the ACOCD meet weekly as a committee to review the claims before them. Each claim is presented by the physician member who conducted the claimant's physical examination. To summarize from Dr. Gray's testimony,<sup>39</sup> the occupational background of the claimant is presented, and then the person's radiographs are put up on a screen. The ACOCD commonly has the advantage of a sequential series of x-rays taken from the time the individual started work; the source of this sequential series will normally be the Chest Surveillance reports. Then, in Dr. Gray's words, "... the pulmonary function studies are reported and discussed, the electrocardiogram has usually been taken in these individuals and that, too, is presented and discussed; and with those major bits of evidence of history — the radiograph, the pulmonary function studies, and cardiogram — it is then that our deliberations take [place] as to, 'Does the man have the diagnosis? If so, does he have any impairment of function because of the diagnosis?'"<sup>40</sup>

The presenting physician who examined the claimant may terminate his presentation by expressing an opinion concerning the presence or absence of impairment, but this opinion is only by way of initiating the Committee's discussion.<sup>41</sup> The Committee comes to a single decision, normally by consensus. The occasional vote may be taken, but neither the vote nor the disagreement is recorded. In the event of a very close vote, the Committee may decide to postpone its decision and re-examine in six

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<sup>35</sup>Ibid., pp. 43-44.

<sup>36</sup>Ibid., p. 46.

<sup>37</sup>RCA Transcript, Evidence of Dr. Jerome J. Vingilis, 8 June 1982, Volume no. 39, p. 42.

<sup>38</sup>RCA Transcript, Evidence of Dr. Cameron C. Gray, 16 July 1982, Volume no. 51, p. 11.

<sup>39</sup>Ibid., pp. 11-12.

<sup>40</sup>Ibid., p. 12.

<sup>41</sup>Ibid.



months.<sup>42</sup> Disagreement, when it occurs, most likely involves claims in which the quantum of impairment, if any, is thought to be low.<sup>43</sup> If asbestosis has been diagnosed, the quantum of impairment is determined on a scale of from 10 to 100%, normally in increments of 10 percentage points, but occasionally more closely refined to, for example, 35% or 75%.<sup>44</sup>

The official finding of the ACOCD, either to deny the claim because the diagnosis of asbestosis is negative, or to allow the claim at a specified quantum of impairment, is recorded and signed by the physician who examined the claimant.<sup>45</sup> It is forwarded to the Board physician, citing reasons for the finding, over the letterhead of the Ministry of Labour at whose clinical examination facilities the claimant was examined and the ACOCD convened.<sup>46</sup> The Board's Chest Disease Consultant may occasionally reply to the ACOCD with a request for clarification, but could not recall in testimony any occasion on which he could not accept a Committee report.<sup>47</sup> He returns the claim file, including the ACOCD report, to the Claims Adjudication Branch. There the adjudicator, if the ACOCD finding was positive, simply applies the recommended quantum (percentage) of impairment to the calculation of the claimant's permanent disability pension and notifies the claimant of the award. The award may be retroactive if, in the opinion of the ACOCD, the claimant showed signs of having had an asbestotic condition for some time. Of course, in such a case, the claimant's quantum of impairment would also be likely to have been set by the ACOCD at a higher than minimum level.<sup>48</sup>

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<sup>42</sup>RCA Transcript, Evidence of Dr. Jerome J. Vingilis, 8 June 1982, Volume no. 39, p. 113.

<sup>43</sup>RCA Transcript, Evidence of Dr. Cameron C. Gray, 16 July 1982, Volume no. 51, pp. 38-39.

<sup>44</sup>In testimony, the Board's Chest Disease Consultant cited a quantum of 35% as a possibility which, however, he could not recall explicitly. See RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, p. 53. Professor Barth's study explicitly recorded one claim in which the quantum was 75%. See Barth, *Workers' Compensation and Asbestos in Ontario*, p. 3.10.

<sup>45</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, p. 51.

<sup>46</sup>RCA Exhibit II-54(b), in RCA Transcript, Evidence of Dr. Jerome J. Vingilis, 8 June 1982, Volume no. 39, p. 51: Assorted Forms.

<sup>47</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, pp. 130-131. With respect to the reasons given for ACOCD findings, Dr. Jerome J. Vingilis, a member of the ACOCD, affirmed in testimony that the following would be a "typical" example of a negative ACOCD report:

"No radiographic progression seen.

Pulmonary function tests are within normal limits.

They have not deteriorated since the last examination.

Signs of asbestos dust inhalation, but no significant asbestosis.

Suspect angina. Re-examine in two years.

We recommend that the claim not be allowed." RCA Transcript, Evidence of Dr. Jerome J. Vingilis, 8 June 1982, Volume no. 39, p. 114.

<sup>48</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, pp. 147-149.

Professor Barth's data indicated that 282 of the 391 asbestosis claims initiated from 1970 through 1980 reached the ACOCD. Of these 282 claims, 200 were affirmed by the ACOCD, and the remaining 82 were the subject of negative findings.<sup>49</sup> A claim that receives a negative finding, like all Board claims which are subject to denial, must be forwarded by the Claims Adjudication Branch to the Claims Review Branch before the claimant is notified. In the recollection of the Board's Chest Disease Consultant, the Claims Review Branch has never questioned a negative finding by the ACOCD.<sup>50</sup> As for the claims concerning which the ACOCD has determined a quantum of impairment, the percentage does not come before the Claims Review Branch because the claim has been deemed successful and hence has been awarded by the Claims Adjudication Branch.

We have been unable to procure any statistical evidence concerning the number of asbestosis claims that have been appealed because the claimant was either denied or dissatisfied with the quantum of impairment he received. However, precisely because asbestosis is an irreversible and normally progressive disease, the claimant who has received a partial disability pension will be reviewed regularly by the ACOCD; so, for that matter, may a claimant who was denied because he was initially rated by the ACOCD at zero impairment. We note that to facilitate re-examination, the physician members of the ACOCD regularly travel to geographic locations outside Toronto.<sup>51</sup> On the basis of data covering the years 1970 through 1980, Professor Barth found that 57 claimants, all of whose claims were initiated between 1970 and 1976, were examined by the ACOCD on five or more occasions.<sup>52</sup> Again, according to Professor Barth, recipients of partial disability pensions most commonly received one change in their impairment rating over a seven- or eight-year period.<sup>53</sup> Finally, Professor Barth estimated that about 30% of the individuals initially rated by the ACOCD at zero impairment ultimately received compensation.<sup>54</sup>

This last point adds significance to the initial gatekeeper role of the Board physician vis à vis the ACOCD. We take it that a claim not seen by the ACOCD cannot be scheduled for re-examination by the ACOCD as a matter of course. In a very real sense, an asbestosis claim seen once by the ACOCD is never considered closed so long as the claimant lives.

The role of the Board physician as gatekeeper to the ACOCD lies merely at the surface of some deep concerns we have developed on the subject of asbestosis claims. We find an absence of any coherent Board policy

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<sup>49</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, p. 6.27.

<sup>50</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, p. 56.

<sup>51</sup>Ibid., p. 44.

<sup>52</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, pp. 6.13, 6.15.

<sup>53</sup>Ibid., pp. 6.16, 6.21.

<sup>54</sup>Ibid., p. 6.10.

to guide the adjudication of such claims. This is as true of the manner in which the ACOCD is left to determine the matter of impairment as it is of the procedures through which asbestosis claims are handled. Let us first address the matter of impairment.

### B.3 Determining the Quantum of Impairment

No written guideline or policy exists to guide or structure the deliberations of the ACOCD. In the words of the Board's Chest Disease Consultant: "We have been sending files to the Committee for fifty-five years, and when we send a claim to the Committee for asbestos [sic], they know what we want. They know that we want a diagnosis, and we want an estimate of the impairment or the disability that arises from that."<sup>55</sup>

The absence of guidance is carried to the point where the Corporate Board's benefit of doubt policy, which as we have seen is otherwise applicable to asbestos-related disease claims, does not extend to the ACOCD. The Board's Vice-Chairman of Administration expressed surprise that this should be so,<sup>56</sup> but it was confirmed as a fact by Dr. Gray, consultant to the ACOCD,<sup>57</sup> and by the Executive Director of the Board's Medical Services Division, Dr. William J. McCracken.<sup>58</sup> The latter went on to explain in his testimony before us that this fact is not accidental. In his opinion, "... benefit of doubt should not be used in the medical evaluation of the problem," but instead is a tool pertinent only to the administrative or legal aspects of the claims process.<sup>59</sup>

If there is a rationale for this state of affairs, it can be found in the ACOCD's practice of re-examining claimants at more or less frequent intervals. As Dr. Gray stated in testimony:

I have a recollection of the odd [case] where there was some real doubt, and it was suggested that the man be seen at an earlier stage than he would have been otherwise. Instead of having a two-year appointment, he was given a one-year appointment or he was given a six-month appointment, because there might have been some doubt about change and therefore it

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<sup>55</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, pp. 34-35.

<sup>56</sup>RCA Transcript, Evidence of Mr. Alan G. MacDonald, 11 August 1982, Volume no. 55, p. 77.

<sup>57</sup>RCA Transcript, Evidence of Dr. Cameron C. Gray, 16 July 1982, Volume no. 51, p. 70.

<sup>58</sup>RCA Transcript, Evidence of Dr. William J. McCracken, 20 July 1982, Volume no. 53, p. 69.

<sup>59</sup>*Ibid.*, pp. 99-100.



would be wise to look at him again, and maybe a little earlier than usual.<sup>60</sup>

This rationale, whatever its merit, does not alter the fact that the Board, either at the Corporate level or through its staff physicians, has never chosen to guide or structure the discretion of the ACOCD. This Committee, to be sure, is composed of expert and knowledgeable physicians. A number of factors therefore come into play as *internal* checks on its discretion. There is the check provided by professional expertise and long experience: members have often been selected from the Chest Surveillance Programme because of the familiarity they have already gained with assessing early signs of chest disease. There is the check provided by group deliberation in the presence of the consultant specialists who sit on the Committee. Then there is the medical literature with which the members of the Committee are thoroughly familiar.

A member of the ACOCD, Dr. Jerome J. Vingilis, shared with us during testimony an example of the professional literature to which the ACOCD adheres closely.<sup>61</sup> This is the textbook entitled *Guides to the Evaluation of Permanent Impairment* prepared by the Committee on Rating of Mental and Physical Impairment of the American Medical Association (AMA). We reproduce from this book in Table 13.1 a succinct summary of classes for respiratory impairment. Under each progressively more severe class of impairment, the table describes the corresponding roentgenogram (x-ray) appearance, degree of dyspnea (shortness of breath), tests of ventilatory function, and arterial oxygen saturation (oxygen uptake).

Material submitted to us by the Board subsequent to our hearings has yielded another illustration of the ACOCD approach to the measurement of impairment.<sup>62</sup> We reproduce in Table 13.2 a worksheet prepared by Dr. Jaan O. Roos of the ACOCD. Up the left-hand vertical scale of the worksheet is a rating from 0 to 4 of classes of progressive impairment. The horizontal scale presents four different evaluation divisions — Physiologic, Anatomic, Clinical, and Exposure — yielding the acronym PACE. In his written commentary that accompanied the PACE diagram,<sup>63</sup> Dr. Roos

<sup>60</sup>RCA Transcript, Evidence of Dr. Cameron C. Gray, 16 July 1982, Volume no. 51, p. 71.

<sup>61</sup>RCA Exhibit II-54(a), in RCA Transcript, Evidence of Dr. Jerome J. Vingilis, 8 June 1982, Volume no. 39, p. 51: American Medical Association, Committee on Rating of Mental and Physical Impairment, *Guides to the Evaluation of Permanent Impairment* (Chicago: AMA, 1971), excerpts.

<sup>62</sup>Letter and attachments from Dr. Charles Stewart, Chest Disease Consultant, Medical Branch, Medical Services Division, Workmen's Compensation Board to the Royal Commission on Asbestos, 2 November 1982.

<sup>63</sup>Dr. Jaan O. Roos, Member of the ACOCD, "Advisory Committee on Occupational Lung Disease," undated, 11 pages, attached to letter from Dr. Charles Stewart to the Royal Commission on Asbestos, 2 November 1982.

Table 13.1  
Classes of Respiratory Impairment

	Class 1 0% Impairment	Class 2 10%-20% Impairment	Class 3 25%-35% Impairment	Class 4 50%-70% Impairment
Roentgenogram appearance	Usually normal but there may be evidence of healed or inactive chest disease including, for example, minimal nodular silicosis or pleural scars.	May be normal or abnormal.	May be normal but usually is not.	Usually is abnormal.
Dyspnea	When it occurs, is consistent with the circumstances of activity.	Does not occur at rest and seldom occurs during the performance of the usual activities of daily living. The patient can keep pace with persons of same age and body build on the level without breathlessness, but not on hills or stairs.	Does not occur at rest but does occur during the usual activities of daily living. However, the patient can walk a mile at his own pace without dyspnea although he cannot keep pace on the level with others of the same age and body build.	Occurs during such activities as climbing one flight of stairs or walking 100 yards on the level, on less exertion, or even at rest.
Tests of ventilatory function (At least two should be performed.) FEV <sub>1.0</sub> FVC MVV Arterial oxygen saturation (when performed)	Not less than 85% of predicted.  Not applicable.	70%-85% of predicted.  Not applicable.	55%-70% of predicted.  Usually 88% or greater at rest and after exercise.	Less than 55% of predicted.  Usually less than 88% at rest and after exercise.

SOURCE: American Medical Association, Committee on Rating of Mental and Physical Impairment, *Guides to the Evaluation of Permanent Impairment* (Chicago: AMA, 1971), Table 8, p. 75.

noted that the normal clinical derivation of the data moves from right to left; that is, from Exposure (occupational, smoking, and activity) to Clinical (patient history and physical examination) to Anatomic (x-ray and biopsy) to Physiologic (pulmonary findings obtained at rest and derived from exercise studies). He observed that somewhat more weight is assigned by the Committee to Anatomic and Physiologic evidence because these categories are more specific and subject to objective measurement. Dr. Roos supplied an illustrative summary of the findings that generally correspond to the classes of progressive impairment of from 0 to 4 for each of the categories of clinical evidence. This is reproduced as Table 13.3. With respect to what the numerical classes of impairment are intended to convey, we note the recurring presence under the Physiologic and Anatomic columns of the words "slight," "moderate," "severe," and "extremely severe" or "extreme." Returning to Table 13.2, we note as well that the right-hand vertical scale of the PACE worksheet assigns two or more 10-point ranges of percentage disability to each numerical class of impairment.

Dr. Roos emphasized that the PACE diagram is "... not used at all in routine practice or evaluations," nor is it "... intended ... in a mechanically arithmetic sense with the summation of points to derive a specific disability rating."<sup>64</sup> Instead, it is meant to "... serve as a teaching aid and an illustration of the type of thought which is used in disability assessment by this Committee."<sup>65</sup> We accept Dr. Roos' valuable illustration in the spirit in which it is intended and indeed as enlighteningly indicative of the enormous task which is assigned to the collective judgement of the ACOCD without the benefit of Board guidance.

To appreciate the full magnitude of the task performed by the ACOCD, one can begin with the uncertainty that shrouds clinical evidence. Dyspnea (shortness of breath) is, like pain, heavily influenced by the subjective feelings of the patient. The extent to which the reading of x-rays is associated with large variations of interpretation among different readers, and even on the part of the same reader, is uncontested.<sup>66</sup> In addition, developments that are producing new imaging techniques offer a potent reminder that the limits of x-ray diagnosis are technologically determined and may be particularly insensitive to determining the early fibrotic changes due to asbestosis.<sup>67</sup> As for pulmonary function tests, Dr. Annalee Yassi, in

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<sup>64</sup>Ibid., p. 7.

<sup>65</sup>Ibid., p. 8.

<sup>66</sup>See, for example, R.B. Reger and W.K.C. Morgan, "On the Factors Influencing Consistency in the Radiological Diagnosis of Pneumoconiosis," *American Review of Respiratory Disease* 102 (1970): 905-915; and J. Yerushalmy, "The Statistical Assessment of the Variability in Observer Perception on Roentgenographic Pulmonary Shadows," *Radiologic Clinics of North America* 7:3 (December 1969): 381-392.

<sup>67</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, pp. 19-21; and RCA Transcript, Evidence of Dr. William J. McCracken, 20 July 1982, Volume no. 53, pp. 71-73.



Table 13.2  
Worksheet Illustration of ACOCD Approach to Impairment

IMP +	P HYSIOLOGIC					A NA		C LINIC			E XPO	DIS %					
	R EST		E XER			X RAY	B H X	P X									
4	O B	R E	T L	W K	M E	G X	L U	P L	T O	O C	T O	O C	O S	A C	90		
															80		
															70		
3															60		
															50		
															40		
2															30		
															20		
															10		
1															0		
0																	
()	O	R	T	W	M	G	L	P	B	T	O	T	O	O	S	A	%

Name ..... X- ..... Date ..... Place .....

Table 13.2 (continued)

## Worksheet Illustration of ACOCD Approach to Impairment

**Notes:**


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IMP	= Impairment.
DIS	= Disability rating.
EXER	= Exercise.
Bx	= Biopsy (lung or pleura).
Hx	= History.
Px	= Physical examination.
ANA	= Anatomic.
CLINIC	= Clinical.
EXPO	= Exposure to hazard.
OB	= Obstructive ventilatory defect.
RE	= Restrictive (non-obstructive) ventilatory defect.
TL	= Transfer Factor for CO (Diffusing Capacity).
WK	= Work output.
ME	= Lung mechanics limitation to exercise performance.
GX	= Gas exchange limitation to exercise performance.
LU	= Lung.
PL	= Pleura.
TO	= Total rating of abnormality (by history or physical examination).
OC	= 1. Occupational component of above. 2. Occupational respiratory hazard.
SM	= Smoking history.
AC	= Current general physical activity level.
4+	= The most severe possible hazard, abnormality, or finding.
3+	= Severe hazard, abnormality, or finding.
2+	= Moderate hazard, abnormality, or finding.
1+	= Slight hazard, abnormality, or finding.
0+	= No significant hazard, abnormality, or finding.

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SOURCE: Dr. Jaan O. Roos, Member of the ACOCD, attached to letter from Dr. Charles Stewart to the Royal Commission on Asbestos, 2 November 1982.

Table 13.3  
Illustrative ACOCD Findings by Class of Impairment and Category of Evidence

Class of Impairment	Physiologic (max.)	Anatomic (max.)	Clinical (max.)	Exposure (max.)
4	Extremely severe occupationally relevant impairment	Category 3/4 pqrst 8 or grade 3 pqrst + C Ontario 6	Maximal symptoms at rest relevant to the occupational exposure	Very severe exposure in a well-known [hazard] for adequate duration
3	Severe impairment relevant to occupational exposure	Cat. 3 (ILO 80) <i>Extreme</i> fibrothorax cat C Ontario 6	Relevant symptoms at rest or minimal exertion	Adequate duration of exposure in a well-known hazard which has constantly produced pneumoconiosis
2	Moderate impairment relevant to occupational exposure	Cat. 2 (ILO 80) Cat A or B severe fibrothorax Ontario 5-6	Relevant symptoms on slight exertion	Adequate exposure duration in a known but uncommon hazard for fibrogenesis
1	Slight but relevant impairment for occupational exposure	Cat. 1 (ILO 80) Moderate pleural thickening 8/or pleural calcification Ontario 4	Relevant symptoms on moderate exertion	Adequate exposure duration in a probable but uncommon hazard situation
1/2	Borderline but relevant impairment	Cat. 1 (ILO 80) slight but definite pleural thickening Ontario 4	Relevant or reasonable symptoms on marked exertion only	Some exposure but doubtful duration of source

SOURCE: Dr. Jaan O. Roos, Member of the ACOCD, attached to letter from Dr. Charles Stewart to the Royal Commission on Asbestos, 2 November 1982.



her study for the Weiler inquiry, noted such potentially distorting effects as variations in effort exerted by different patients and differing standards of what constitutes “normal” function or for that matter “mild,” “moderate,” or “severe” impairment or disability.<sup>68</sup> The ACOCD, amidst all these sources of uncertainty, does more than distinguish among claimants in accordance with categories of impairment like “mild” or “moderate”; it further distinguishes within categories of impairment by recommending different percentages of disability.

The very terms “impairment” and “disability” in turn complicate the task of the ACOCD. Thus far in this chapter we have used these terms interchangeably, in part for the sake of simplicity, in part because the terms exhibit different degrees of overlap both in the statutory language of the *Workers’ Compensation Act* and in medical practice.

Statutory eligibility for a permanent disability pension is prescribed by section 43(1) of the Act in the following words: “Where permanent disability results from the injury, the impairment of earning capacity of the employee shall be estimated from the nature and degree of the injury. . . .”<sup>69</sup> The effect of this language, as we understand it, is to define by statute two words, “disability” and “impairment,” each of which is made a matter of medical determination, in terms of the other. Clearly, whether or not “permanent disability results from the injury” calls for medical determination. Just as clearly, the words “the impairment of earning capacity of the employee” are drained of any socio-economic connotations by the stipulation that this impairment “shall be estimated from the nature and degree of the injury.” This is again a matter for medical determination. From this we conclude that the requirements of section 43(1) make disability and impairment synonymous and matters for medical determination.

In performing its task, which is ultimately governed by the language of section 43(1), the ACOCD must live with the fact that the medical literature offers quite different versions of the words “impairment” and “disability.” According to the *AMA Guides to the Evaluation of Permanent Impairment*, to which we have already had occasion to refer, permanent impairment is “. . . a purely medical condition.” It is “. . . any anatomic or functional abnormality or loss after maximal medical rehabilitation has

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<sup>68</sup>Yassi, “Occupational Disease and Workers’ Compensation in Ontario: A Report for the Weiler Inquiry,” chap. 3, sec. 4.3.

<sup>69</sup>R.S.O. 1980, c. 539, s. 43(1).

been achieved. . . ."<sup>70</sup> For its part, permanent disability ". . . is not a purely medical condition. A patient is permanently 'disabled' or 'under a permanent disability' when his actual or presumed ability to engage in gainful activity is reduced or absent because of 'impairment' which, in turn, may or may not be combined with other factors."<sup>71</sup>

How has the ACOD resolved the difference between the statute and the medical literature? With one notable exception, our answer to this question is that the ACOD has opted for the statutory approach that makes impairment and disability synonymous. In making this finding, we pronounce ourselves in basic agreement with the observations of the Board's Chest Disease Consultant, Dr. Charles Stewart,<sup>72</sup> and cite the following evidence.

First, there is the matter of cigarette smoking in relation to asbestosis. As we know from our review of the health literature in Chapter 5, cigarette smoking cannot initiate the fibrotic process that leads to asbestosis. On the other hand, however, the deviation from normal of the lung functions of a victim of asbestosis is likely greater if the victim is a smoker. This increases the difficulty of assessing impairment caused by asbestosis. The ACOD resolves this difficulty by ignoring smoking habits when it recommends quantum of impairment. If the claimant, in the words of Dr. Vingilis, ". . . has simple, chronic, obstructive lung disease, cigarette-related, we do not discriminate. . . ." <sup>73</sup>

Second, it is acknowledged that lung function tests, particularly exercise tests, measure work-related disability as well as impairment. Thus, a particular lung function measurement may indicate that an individual could do average factory work but not heavy construction work. Even though the ACOD may know that a given individual is not disabled in relation to the

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<sup>70</sup>American Medical Association, Committee on Rating of Mental and Physical Impairment, *Guides to the Evaluation of Permanent Impairment*, p. iii. We note a comparable but lung-specific definition of impairment by the Canadian Thoracic Society and the Health Standards Division of the Department of National Health and Welfare: "A reduction of lung function as compared with predicted so-called 'normal values.' " Health and Welfare Canada, *Task Force on Occupational Respiratory Disease (Pneumoconiosis)* (Ottawa: Minister of National Health and Welfare, February 1979), p. 7. Dr. Cameron C. Gray of the ACOD served as a member of this Task Force.

<sup>71</sup>American Medical Association, Committee on Rating of Mental and Physical Impairment, *Guides to the Evaluation of Permanent Impairment*, p. iii. The definition of disability by the Canadian Task Force is: "The inability of an individual to perform his/her usual pattern of activities at work, at home, and in his/her leisure time." Health and Welfare Canada, *Task Force on Occupational Respiratory Disease (Pneumoconiosis)*, p. 7.

<sup>72</sup>Letter from Dr. Charles Stewart to the Royal Commission on Asbestos, 2 November 1982.

<sup>73</sup>RCA Transcript, Evidence of Dr. Jerome J. Vingilis, 8 June 1982, Volume no. 39, p. 54.

work associated with his current employment, it will equate that individual's impairment with disability.<sup>74</sup>

There is, however, a noteworthy exception to our finding that the ACOCD equates impairment and disability: it arises in cases of severe to extremely severe asbestosis. In its advanced stages, asbestosis progresses from a state where it precludes stair-climbing to one where it confines an individual to his home and then makes him virtually bedridden. At these stages, the individual is, to all intent, totally disabled from work and from every semblance of the activities of day-to-day life. But is that individual's impairment as high as his disability? There will be situations where the ACOCD cannot tell on the basis of its examinations because the individual, in the words of Dr. Gray, is ". . . too ill, too sick, too disabled to come."<sup>75</sup> Such an individual may be awarded temporary disability benefits by the Board because of his bedridden condition, but his permanent disability status, for lack of opportunity to ascertain whether his impairment was occasioned by asbestosis, is left in limbo. After the death of that individual, it will become the task of the Board, with the advice of the ACOCD, to determine retrospectively, perhaps with the aid of pathological evidence from an autopsy, whether the individual was 100% impaired. There is thus an incongruence between disability and impairment in the more advanced stages of asbestosis. We propose to address this state of affairs presently, but by redefining impairment rather than insisting that it be aligned with disability.

Before doing so, however, let us summarize what has been said so far by saying that with respect to determining the quantum of impairment, the ACOCD has: (i) shouldered the burden of an enormous task fraught with medical uncertainty; (ii) translated categories of impairment such as mild, moderate, severe, and extreme into more refined percentage categories of impairment/disability; (iii) basically viewed impairment and disability, in line with the Act, as synonymous; and (iv) accomplished all of this without guidance from the Board.

The first strong conviction we now express is that the absence of Board guidance in the matter of compensation for asbestosis must come to an end. The same considerations that motivate our call for clear and publicly known eligibility rules in Chapter 12 are applicable to the specific task of determining the quantum of impairment caused by asbestosis. Both for the sake of certainty and simplicity in claims adjudication, and to serve horizontal equity by promoting the similar treatment of similarly impaired individuals, classes of impairment should be explicit as a matter of Board policy.

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<sup>74</sup>Ibid., p. 49.

<sup>75</sup>RCA Transcript, Evidence of Dr. Cameron C. Gray, 16 July 1982, Volume no. 51, p. 49.



As for what constitutes impairment, we believe that the definition should be grounded in medical considerations for both conceptual and pragmatic reasons. Conceptually, defining impairment as a medical condition will retain consistency with the medical literature. Pragmatically, defining impairment as a medical condition will be consistent either with a statutory approach which, like the present one, confounds impairment with disability or with a statutory approach that would seek to distinguish impairment from socio-economic disability.

We begin with the definition of impairment, cited above, from the *AMA Guides*, as "any anatomic or functional abnormality or loss after maximal medical rehabilitation has been achieved." Because asbestosis, sadly, is irreversible, the person in whom it is diagnosed is irremediably beyond "maximal medical rehabilitation." The part of the AMA definition which remains operationally applicable to asbestosis is therefore "any anatomic or functional abnormality or loss." Impairment is therefore narrowly defined in *physical* terms.

But medicine embraces psychological as well as physical impairment. The individual who is told that he has asbestosis learns that he suffers from an irreversible and normally progressive disease. We are not aware of medical studies that deal specifically with psychological impairment that might arise from asbestosis. There are studies, however, which document that adverse psychological effects are associated with medical conditions which have not even produced clinical symptoms, let alone permitted the diagnosis of irreversible disease. Thus, one study has found that individuals who are mislabelled as having high blood pressure show a significant decrease in their perception of well-being.<sup>76</sup> In another study, this one dealing with Canadian steelworkers, it was found that when previously unaware workers were told they had high blood pressure there was a rise in absenteeism in comparison to workers who were unaware of their blood pressure. The absenteeism rate has persisted over a number of years and the most recent analysis indicates that these workers are earning about \$1,000 less per person per year than their matched cohorts.<sup>77</sup> Since there is an effective treatment for high blood pressure and this condition is not associated with a significant shortening of life expectancy if properly treated, the degree of attitudinal change in these otherwise healthy workers is of some significance. More serious life events can reasonably be expected to coincide with more pronounced degrees of attitudinal change. There are studies documenting depression and suicide among victims of pulmonary and cardio-

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<sup>76</sup>R. Brian Haynes et al., "Improvement of Medication Compliance in Uncontrolled Hypertension," *The Lancet* (12 June 1976): 1265-1268.

<sup>77</sup>David L. Sackett et al., "Randomised Clinical Trial of Strategies for Improving Medication Compliance in Primary Hypertension," *The Lancet* (31 May 1975): 1205-1207.

respiratory diseases.<sup>78</sup> In fact, and specifically in the realm of asbestos, one study of mortality patterns among factory workers who exhibited significant excess deaths from respiratory disease found 30 suicides where only 17 might have been expected, a statistically significant increase at the 1% level in the incidence of this tragic outcome of depression.<sup>79</sup>

At the level of recognized medical textbooks, the adverse psychological impact of illness, injury, and loss is fully acknowledged. Dr. Mardi J. Horowitz of the Department of Psychiatry at the University of California at San Francisco has written as follows:

Considering the general disparities of psychological research, a rather remarkable concordance is found in the clinical, field, and experimental studies of response to the stress of serious life events or to vicarious simulations of such events. The frequency of two broadly defined states increases after such occurrences; one is characterized by an unusual level of intrusive and emotional memories or fantasies, the other by qualities of emotional numbing and ideational avoidance or denial.<sup>80</sup>

Dr. Horowitz went on to say:

Insofar as their severity is consonant with the meaning of these events to the person, such states of denial or intrusion are normal. Pathological states are those that are unusually intense and, at the same time, are maladaptive to the person.<sup>81</sup>

We have learned that the Workers' Compensation Board is neither unaware of, nor insensitive to, the adverse psychological consequences that can afflict claimants *in the realm of accidents*. On February 9, 1982, the Corporate Board approved a guideline entitled "The Adjudication of Claims for Psychotraumatic Disability," whose full text is reproduced in the Appendix to this chapter. This document opens with the words: "An employee is entitled to benefits when personal injury is sustained through

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<sup>78</sup>Kent Smith, "Psychological Implications of Pulmonary Disease," *Clinical Notes on Respiratory Disease* 16 (1977): 3-11; I. Sakinofsky, "Depression and Suicide in the Disabled," in *Behavioural Problems in the Disabled*, ed. D.S. Bishop (Baltimore, Maryland: Williams and Wilkins, 1980), chap. 2, pp. 16-51; and N.L. Farberow et al., "Suicide Among Patients with Cardiorespiratory Illness," *Journal of the American Medical Association* 195:6 (7 February 1966): 128-134.

<sup>79</sup>Cynthia Robinson, Richard A. Lemen, and Joseph K. Wagoner, "Mortality Patterns, 1940-1975 Among Workers Employed in an Asbestos Textile, Friction and Packing Products Manufacturing Facility," in *Dusts and Disease*, eds. Richard A. Lemen and John M. Dement (Park Forest South, Illinois: Pathotox Publishers Inc., 1979), p. 134.

<sup>80</sup>Mardi J. Horowitz, "Psychological Processes Induced by Illness, Injury and Loss," in *Handbook of Clinical Health Psychology*, eds. T. Millon, C. Green, and R. Meagher (New York: Plenum Press, 1982), p. 53.

<sup>81</sup>*Ibid.*, p. 54.

an accident which arises out of and occurs in the course of employment. 'Injury' includes both physical and emotional disability." It goes on to say that, "Psychotraumatic disability is considered to be a temporary condition." Subsequently, the guideline stipulates that one of the criteria for entitlement is fulfilled when "[t]he psychotraumatic disability is shown to be related to extended disablement and to non-medical, socio-economic factors, the majority of which can be directly and clearly related to the compensable injury."

What is clear from this is that the Board: (i) has declared a policy of compensating for adverse psychological conditions that arise from work-related accidents; (ii) views the compensation as involving temporary benefits; and (iii) associates the adverse psychological conditions with socio-economic disability rather than medical impairment. With respect to the last point, the Board appears to us to be consistent with its statute because the Act confounds impairment with disability only with respect to permanent disability, not with respect to temporary disability. The Executive Director of the Board's Medical Services Division confirmed, at a meeting with Commissioner Mustard and our Legal Counsel,<sup>82</sup> that Board practice indeed coincides with the above characterization. He could not think of an asbestosis case where an allowance for psychological impairment had been made; neither could the Board's Chest Disease Consultant in his testimony before us.<sup>83</sup>

If the matter of impairment arising from asbestosis has remained grounded solely in physical considerations, this is occasioned only in part by the fact that the Board has not addressed the psychological impact of disease. The *AMA Guides*, to which the *AC OCD* adheres, offers only a physical definition of impairment. That this should be so is broadly consistent with the widely accepted professional notion that medicine, with greater or lesser allowance for uncertainty, can measure physical impairment more readily than it can measure psychological impairment. This does not deny the medical content of psychological impairment; even less does it deny the reality of the psychological impact of a diagnosis of asbestosis on a claimant. It is instead an assertion of what medicine confidently considers more readily measurable.

In our judgement, what is measurable as medical impairment and what is compensable as medical impairment need not and should not be synonymous. What is medically compensable should embrace matters which: (i) can be grounded in medical fact; and (ii) can be related to medical impairment in the realm of adjudication.

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<sup>82</sup>RCA Meeting with Dr. J. Fraser Mustard, Mr. John I. Laskin, and Dr. William J. McCracken, 1 December 1982.

<sup>83</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, pp. 134-135.



We believe that we can reasonably infer that a phenomenon is a medical fact if, whether or not it is quantifiable, it is recognized as such in the professional literature. The authorities we have cited satisfy us that as a matter of general medical fact, psychological impairment can be expected to result from learning that one suffers from an irreversible, normally progressive disease. We can then find stronger and more specific reason for inferring that psychological impairment arises as a matter of medical fact if, in the circumstances just outlined, experienced practitioners of clinical medicine have recognized its reality in the patients they treat. On this score, we cite the following evidence from our transcript of sworn testimony, wherein Mr. Nick McCombie, representing the Injured Workers' Consultants, was cross-examining Dr. Vingilis, member of the ACOCD:

Q. . . . do you know if anyone has done any studies on the psychological impact of asbestos, insofar as a worker all of a sudden discovering that they do have an asbestos-related disease, and . . . the effect that that may or may not have on the individual?

A. You notice this very much by examining those people. Yes.

Q. You notice it, but do you know if there are any studies that are done by the Ministry or anyone else?

A. I don't think there was psychological studies done, but that was a fact I felt very strongly about — many people been disturbed, and disturbed to depression and anxiety, and so on.<sup>84</sup>

We conclude that psychological impairment in asbestosis sufferers can be taken to be a matter of medical fact.

Can this medical fact of psychological impairment be related to medical impairment in the realm of adjudication? The authorities we have consulted involve cases of tort liability in which courts have made awards under the broad heading of non-pecuniary loss. Awards on grounds of non-pecuniary loss are the ones relevant to medical impairment because, as the term "non-pecuniary loss" suggests, such awards are not related to socio-economic disability. A review of a number of authorities dealing with personal injury claims makes it clear that the tort liability system recognizes and compensates for psychological impairment when it results from the defendant's wrongful act. It has been common for courts to compensate for severe and continuing pain even when clinical evidence discloses no organic

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<sup>84</sup>RCA Transcript, Evidence of Dr. Jerome J. Vingilis, 8 June 1982, Volume no. 39, pp. 150-151.

cause for such pain.<sup>85</sup> Compensation has also been awarded for changes which an accident may have brought about in a victim. In making such an award that recognized the emotional impact on a victim of a serious scar on her leg, Chief Justice Gale of the Ontario Court of Appeal wrote:

In our view, it is not necessary to experience a traumatic neurosis in order to obtain an award of damages for an emotional shock. . . . Nor is it absolutely necessary, although preferable of course, that psychiatric evidence be called.<sup>86</sup>

The courts are well aware that psychological states such as depression may not be objectively measurable. Indeed, courts have had to face the truly perplexing task of distinguishing the portion of depression that a plaintiff might have suffered from grief relating to the loss of a spouse in an accident, which at common law is not compensable, from the portion, which is compensable, of the plaintiff's depression occasioned by the accident-induced injuries which he himself suffered. In such a case, Mr. Justice Galligan of the Ontario High Court of Justice wrote:

It is impossible to say, with any degree of precision whatsoever, what part the grief and sorrow play in the depression. I am satisfied that it is significant.

The circumstances pose such difficulties in assessment that really, I think, have to go on the well-known principle that when one knows that damages have been sustained, the court must nevertheless assess them, even if doing so amounts to little more than making a guess.<sup>87</sup>

In the realm of court adjudication arising from tort liability cases, we have solid ground for finding that psychological impairment is viewed as a medical condition, and that difficulties of measurement, however intractable, are not a barrier in determining awards even if, to repeat Mr. Justice Galligan's phrase, "doing so amounts to little more than making a guess."

The same principle, in our view, should be applicable in the realm of workers' compensation. Let us always recall that the very rationale for such compensation rests on the fact that claimants have lost their common law rights to sue for damages. The Workers' Compensation Board, as we have noted, already provides, as a matter of policy, temporary benefits arising

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<sup>85</sup>*Canning v. McFarland and Gray*, [1954] O.W.N. 467; *Diederichs v. Metropolitan Stores Ltd.* (1956), 20 W.W.R. 246; *Krahn et al. v. Rawlings* (1977), 16 O.R. (2d) 166; *Hammer v. Mobile Oil of Canada Ltd. and Erick* (1979), 5 Sask. R. 296; *Russell v. Kostichuk* (1980), 15 C.C.L.T. 247.

<sup>86</sup>*Charters et al. v. Brunette et al.* (1973), 1 O.R. (2d) 131 at 132.

<sup>87</sup>*Montgomery v. Murphy et al.* (1982), 37 O.R. (2d) 631 at 639.

from psychotraumatic disability in accident victims. An interpretation of the British Columbia *Workmen's Compensation Act* provides an authority for finding that statutory words identical to those in the present Ontario Act permit the Board to compensate for psychological impairment in the medical sense of the word. Section 3(1) of the Ontario Act opens with the words:

Where in any employment, to which this Part applies, *personal injury* by accident arising out of and in the course of the employment is caused to an employee . . . . (Emphasis added.)<sup>88</sup>

Interpreting the words *personal injury* in a case in which a claimant with a permanent partial disability pension claimed that he was psychologically unfit for work, the British Columbia Compensation Commissioners wrote:

Under the [B.C.] *Workmen's Compensation Act*, compensation is payable not for "injury" but for "personal injury." That is a technical term adopted by the legislature from the jargon of the common law courts. In those courts, that term includes psychological impairment as well as physical injury, and there is no ground for attaching a different meaning to the phrase in the present context.<sup>89</sup>

It is, therefore, apparent that the Ontario Board may indeed compensate for psychological impairment *qua* impairment under its current Act. Furthermore, we have reason for stating that, at least implicitly, the Board already recognizes such impairment in certain cases of permanent disability where, in line with the language of section 43(1), impairment and disability are synonymous. Thus, a claimant who is totally blinded by a workplace accident qualifies for a 100% permanent disability pension. Such a person retains his 100% disability/impairment award even though, with rehabilitation, the element of socio-economic disability has been reduced or perhaps even eliminated.

Over and above all the considerations we have dealt with thus far, we find a simple rationale grounded in common sense for recognizing the permanent psychological impairment of victims of irreversible and normally progressive disease as a matter of Board policy. In all but the most exceptional cases, the accident victim suffers his maximum loss at the time of the event. The worst that could happen has happened, and his condition is likely to be stabilized or even improved following rehabilitation. The victim

<sup>88</sup>R.S.O. 1980, c. 539, s. 3(1).

<sup>89</sup>*Re the Determination of a Disability* (1973), 1 W.C.R. 19 at 24 (British Columbia Workmen's Compensation Commissioners).



of irreversible and normally progressive disease, for his part, must live with the notion that the worst has yet to happen: the likelihood of progressive physical impairment, of a shortened lifespan, and indeed of death from the disease or a related cause are his unsettling prospects. In our judgement these prospects, if anything, make the grounds for recognizing psychological impairment in victims of chronic, irreversible, lifespan-shortening disease more compelling than those that obtain in the realm of accidents. They also suggest that a policy of permanent compensation for such disease victims need not, of itself, dictate a change in the Board's psychotraumatic guideline that involves temporary compensation in individual cases that arise in the realm of accidents.

We now address the question of how to compensate victims of asbestosis (and similar irreversible and normally progressive disease) as a practical matter. The answer, in our view, lies again in medical considerations. Psychological and physical impairment are both medical concepts; the difference between the two lies in the fact that physical impairment, within certain bounds dictated by uncertainty, is more readily quantitated than psychological impairment. It follows that, as a practical matter, a Board policy to compensate victims of asbestosis for their total impairment should be based upon a quantification of physical impairment, augmented by an automatic allowance for psychological impairment. Accordingly, such a policy should establish classes of physical impairment. The policy should then stipulate that the physicians of the Advisory Committee on Occupational Chest Diseases (AC OCD) have the task of recommending, on the basis of clinical examination, each claimant's class of physical impairment. The AC OCD should no longer be asked to determine a claimant's percentage of disability/impairment for compensation purposes within a particular class of impairment. Instead, corresponding percentages of total impairment, incorporating an allowance for psychological impairment, should be established by Board policy for each class of physical impairment. It would be left for the Claims Adjudication Branch to calculate each claimant's award in accordance with the Board-determined percentage of total impairment that corresponds to the class of physical impairment recommended by the AC OCD.

The Board's policy should recognize three classes of impairment with respect to the clinical recommendations asked of the AC OCD. On the basis of the material we have already reviewed, these should correspond to Classes 2, 3, and 4 of the *AMA Guides* regarding respiratory impairment. (See Table 13.1 above.) We note close similarities between these and the impairment Classes II, III, and IV depicted in the report of the Health and Welfare Canada Task Force on Occupational Respiratory Disease (Pneumoconiosis), which we reproduce in Table 13.4.

We take note of the terminology which the Health and Welfare Canada Task Force employed in describing impairment Classes II, III, and

**Table 13.4**  
**Classification of Impairment**

	Class I	Class II	Class III	Class IV	Class V
Dyspnea	(No impairment) The subject may or may not have dyspnea. If dyspnea is present it is for non-respiratory reasons.	(Mild impairment) Dyspnea on fast walking on level ground or walking up a hill.	(Moderate impairment) Dyspnea walking on level ground with person of the same age or walking one flight of stairs.	(Severe impairment) Dyspnea after walking more than 100 meters at own pace on level ground.	(Very Severe impairment) Dyspnea on talking or undressing or unable to leave his dwelling because of breathlessness.
Pulmonary function tests					
FVC	Normal*	Obstructive N/A	Obstructive N/A	Obstructive N/A	Obstructive Same as IV
FEV <sub>1</sub>	Normal	More than 60% of Predicted Value	40%-60% of Predicted Value	Less than 40% of Predicted Value	Same as IV
DLCO	Normal	Normal or slightly abnormal	Usually more than 50% of Predicted Value	Reduced	Same as IV
Maximal V <sub>O</sub> <sub>2</sub>	Normal more than 25ml/Kg/min**	Less than 25 ml/Kg/min**	Less than 15 ml/Kg/min**	Less than 7 ml/Kg/min	Less than 7 ml/Kg/min
Arterial blood gases at rest	Normal	Normal	PO <sub>2</sub> more than 60 mmHg PCO <sub>2</sub> less than 45 mmHg	PO <sub>2</sub> more than 60 mmHg PCO <sub>2</sub> less than 45 mmHg	PO <sub>2</sub> less than 50 mmHg PCO <sub>2</sub> less than 45 mmHg

**Notes:** \*A normal value lies within 2 standard deviations of the mean. The mean value is standardized for age, sex, and height when applicable.  
\*\*If less, this limitation is secondary to non-pulmonary reasons.

SOURCE: Health and Welfare Canada, *Task Force on Occupational Respiratory Disease (Pneumoconiosis)* (Ottawa: Minister of National Health and Welfare, February 1979), p. 74.

IV and also of the descriptive terms used by Dr. Jaan O. Roos of the ACOCD in the written commentary that accompanied his PACE diagram. (See Table 13.2 above.) On the basis of these authorities, the three classes of physical impairment recognized by Board policy should be termed "Mild," "Moderate," and "Severe."

We explicitly reject the incorporation into Board policy of a class of "Extremely Severe" physical impairment which would correspond to Class V in the report of the Health and Welfare Canada Task Force. We have already noted that under prevailing ACOCD practice, asbestosis claimants in the most advanced stages of progression may be left to a *post mortem* determination of their physical impairment because they are too sick to be subjected to a clinical examination. We have further reason for rejecting the "Extremely Severe" class of physical impairment because, given the statutory ceiling of 100% for permanent disability, it would deny adequate recognition of psychological impairment. In this connection, it is necessary as well to recognize that individuals who have progressed to the "Severe" class of physical impairment can be said to bear an additional psychological burden because it is at this stage of progression that asbestosis is most likely to occasion death from related causes. Dr. Gray stated in testimony that usually "... the individual who dies of a right heart failure, the *cor pulmonale*, has significant and in fact severe impairment."<sup>90</sup> Dr. Gray also pointed out that the response of a person to treatment for bronchial pneumonia is likely to be "... less effective ... because of the severe asbestosis. . . ."<sup>91</sup>

There remains the matter of setting, as a matter of policy, the percentage award for total medical impairment that should correspond to each class of physical impairment and that should incorporate an allowance for psychological impairment. Returning again to the classes taken from the *AMA Guides* and depicted in Table 13.1, we note that Class 2 is related to a range of 10 to 20% physical impairment; Class 3, to a range of 25 to 35%; and Class 4, to a range of 50 to 70%. With these ranges before us, and bearing in mind the wise observation of the courts that lack of objective measurement is no excuse for refraining from compensation based on judicious guesses, we determine that the following percentages, as a matter of Board policy, would fairly and equitably compensate asbestosis victims in each class of physical impairment for both physical and psychological impairment: Mild, 30%; Moderate, 60%; Severe, 100%.

In line with the above considerations, we recommend that:

**13.1 *The Workers' Compensation Board, by directive of the Corporate Board, should promulgate as a matter of Board policy a rule for***

<sup>90</sup>RCA Transcript, Evidence of Dr. Cameron C. Gray, 16 July 1982, Volume no. 51, p. 51.

<sup>91</sup>*Ibid.*, p. 52.



*determining the quantum of compensable physical and psychological impairment arising from asbestosis in claimants diagnosed by the Advisory Committee on Occupational Chest Diseases (ACOD) as suffering from this disease. The rule should instruct the ACOD to assign such claimants to one of three classes of physical impairment defined by competent medical authorities as corresponding to Mild, Moderate, and Severe respiratory impairment and direct that the percentages to be used by the Claims Adjudication Branch for calculating awards for physical and psychological impairment be:*

- (i) where the ACOD finds Mild physical impairment, 30%;*
- (ii) where the ACOD finds Moderate physical impairment, 60%; and*
- (iii) where the ACOD finds Severe physical impairment, 100%.*

We recognize that an asbestosis policy which incorporates an automatic allowance for psychological impairment has implications for other compensable diseases. We recognize as well that, unless these implications are confined within sensible boundaries, the matter of unravelling them could indefinitely postpone any recognition of psychological impairment in industrial disease victims. Accordingly, we offer two criteria to delineate the diseases whose compensation might include an automatic allowance for psychological impairment. First, such diseases should be workplace-specific, in the sense that their related industrial process is recognized as their necessary and sufficient cause. As a practical matter, the diseases that satisfy this criterion would be the diseases which, pursuant to our exposition in Chapter 12, qualify for Schedule 3 of the *Workers' Compensation Act*. Second, such diseases should involve, like asbestosis, chronic, irreversible disorders that shorten life expectancy. We recommend that:

**13.2** *In assessing the implications of Recommendation 13.1 for the compensation of other diseases, the Workers' Compensation Board should address those diseases whose associated industrial process is their necessary and sufficient cause and whose manifestation involves chronic, irreversible disorders that shorten the individual's life expectancy.*

Under the current *Workers' Compensation Act*, the statutory provisions governing compensation for permanent disability make impairment and disability synonymous. We appreciate the fact that the *White Paper on the Workers' Compensation Act* envisages a markedly different approach to compensation. It proposes a dual compensation award system: one award to recognize impairment in its proper medical sense, the other to be paid in accordance with the victim's socio-economic disability. A dual award system has substantial implications for the cost and benefit levels of the entire scheme of workers' compensation in Ontario. Our deliberations have not embraced these implications because they are too vast, given our terms of reference and the nature of the submissions we have received, to be

addressed by this Commission. The policy we have recommended for the compensation of asbestosis victims is confined to medical impairment; should a dual award system be instituted, this policy is applicable to the impairment award, not the socio-economic disability award.

We note, however, that this would not be possible under the language used in the legislative exposure draft that accompanies the *White Paper*. Section 1(1)(v) of this draft defines permanent impairment in conventional physical terms; indeed it repeats the words of the *AMA Guides* whereby permanent impairment is confined to mean “any anatomic or functional abnormality or loss after maximal medical rehabilitation has been achieved.” We need not repeat the reasons for which we deem psychological impairment to be a valid component of permanent impairment in the medical sense of the term. It suffices to record our view that any future workers’ compensation statute that seeks to define permanent impairment as a medical condition should do so in a manner that accommodates psychological impairment. Such a definition should be sensitive to the medical uncertainties that make it difficult to delineate the boundaries of psychological impairment and hence should be couched in language that gives the Board sufficient flexibility to set these boundaries as a matter of policy. To give a specific example, this would be permitted by a definition of permanent impairment that used words like the following: “any anatomic or functional abnormality or loss after maximal medical rehabilitation has been achieved and any psychological damage arising from such abnormality or loss that the Board may recognize as a matter of policy.” We recommend that:

*13.3 The statutory definition of impairment contained in the legislative exposure draft in the White Paper on the Workers’ Compensation Act should be reviewed to ensure that the statutory language of any relevant amendment to the Workers’ Compensation Act is couched in language that includes psychological impairment.*

## **B.4 Restructuring the ACOCD**

Now that we have addressed the substantive issues that are occasioned by the determination of quantum in asbestosis claims, what remain are matters of procedure. The first matter arises at the very threshold of the ACOCD: it is posed by the gatekeeper role of Board physicians, which permits them to recommend denial of asbestosis claims without referral to the ACOCD. Professor Barth expressed unease with this practice, and we share his concern. If we have reason to temper the degree of our own concern, it lies in the completely revised upper echelon of the appeals structure which we, in support of Professor Weiler, have recommended. Evidently, review by the new Appeals Tribunal, coupled with a Medical Review Panel, will give to the denied claimant the opportunity of an outside medical opinion

as a check on the Board physician's finding that asbestosis cannot be diagnosed and that hence no referral is to be made to the ACOCD. However, we are mindful of the fact that this opportunity is extended to the claimant only at the final stage in the appeals process. Time has passed, and the extent to which a workers' compensation system should operate expeditiously revitalizes our concern.

The data from Professor Barth's study which we cited earlier in this chapter indicated that slightly more than one-quarter (109 of 391) of asbestosis claims were not referred to the ACOCD between 1970 and 1980. Let us observe that a claim not referred to the ACOCD is more than just denied and left to the appeals structure. Given the practice of the ACOCD, which we have noted, of rescheduling for early re-examination claimants it has seen but concerning whom it is in doubt, there is an advantage that is inherent to crossing the ACOCD threshold. Accordingly, we have considered recommending that the gatekeeper role of Board physicians be dispensed with altogether.

If we restrain ourselves from so recommending, it is from concern over the total workload of the ACOCD. The only figures we have on the Committee's workload have already been cited. They indicate some 400 to 450 chest disease (not just asbestosis) claims per year and may not take account of re-examinations. There is reason for being sensitive to the workload of the ACOCD to the extent that the timely disposition of the cases that *do* come to the Committee has its own relevance for the expeditious operation of the compensation system.

We choose to resolve the matter of the Board physician's role as gatekeeper to the ACOCD by proposing that discretion to deny access to the Committee be retained, but restricted to those claims which, in the stated opinion of a Board physician and subject to the usual check of the Claims Review Branch, are deemed frivolous. The term "frivolous" is well understood in law and indeed appears in the Ontario *Human Rights Code* as grounds for denying investigation of a complaint.<sup>92</sup> Claims not referred to the ACOCD on grounds of frivolity could still be appealed, and the Appeals Tribunal will doubtless have the competence to work out the basis of whether or not such grounds should be upheld in individual appeals. We therefore recommend that:

**13.4 *The Corporate Board should promulgate a rule applicable to the procedural adjudication of asbestosis claims which stipulates that a physician of the Medical Services Division is to refer such claims to the Advisory Committee on Occupational Chest Diseases unless, in the***

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<sup>92</sup>*Human Rights Code, 1981, S.O. 1981, c. 53, s. 33(1)(b).*



*opinion of the physician subject to check by the Claims Review Branch, the claim is deemed frivolous.*

The second procedural matter we wish to address involves the *modus operandi* of the ACOCD itself. Our substantive recommendation on quantum of impairment leaves to the Committee the important tasks of diagnosing asbestosis and assigning claims to different classes of physical impairment. To be sure, the Committee's task will be simplified because only three classes of impairment are involved, and the Committee will be excused from its present duty of determining percentages of disability within classes of impairment. The Committee will therefore operate within bounds that are less vulnerable to medical uncertainty than is the case at present. But this is not to say that the Committee's role will in any way be trivialized. Cases at the borderline of the three impairment classes will remain problematic. More particularly, we have every expectation that the question of whether or not a claim falls into the Mild category of impairment will often continue to pose a major challenge to clinical judgement. We have already cited from Dr. Gray's testimony that disagreement within the ACOCD has been most likely to surface at low levels of impairment.

Several interconnected issues surround the *modus operandi* of the ACOCD. The first is its practice of leaving the clinical examination of a claimant to a single physician. The second is its practice of reaching consensus decisions with no record of dissenting votes. The third lies in the extent to which the Committee reviews its own work. In search of a standard of comparison, and following Professor Barth's lead, we have reviewed the arrangements through which the Commission de la santé et de la sécurité du travail du Québec diagnoses asbestosis and determines the quantum of impairment. There, as Professor Barth has pointed out, twelve physicians are allocated among four three-member panels.<sup>93</sup> Each panel is responsible for making the diagnosis and estimating the impairment of the claimants assigned to it. All three members of each panel are present for at least parts of each claimant's clinical examination. We find the enhanced degree of collective judgement made possible by this approach to clinical examinations attractive.

After we had completed our hearings, we asked the Quebec Commission whether it has procedures for recording dissents and for resolving these when they occur. We were informed by the Director of Medical Services of the Commission, Dr. Jean P. Lemieux, that precise procedures are in place.<sup>94</sup> The report on the medical evaluation of each claimant must be co-signed by all three members of the examining panel. Any dissenting opinion

<sup>93</sup> Barth, *Workers' Compensation and Asbestos in Ontario*, p. 2.29.

<sup>94</sup> Letter from Dr. Jean R. Lemieux, Director, Medical Services, Commission de la santé et de la sécurité du travail du Québec to the Royal Commission on Asbestos, 25 October 1982.

is recorded. Whenever a dissenting opinion occurs, the claimant's complete file is referred to a special committee composed of the chairmen of the four panels. The chairman of the panel from whom the dissenting opinion originated does not participate in the debate. The special committee's decision then becomes the decision of the primary level of adjudication and is subject to the normal channels of appeal.

Even allowing for the fact that the ACODC schedules early re-examination of claimants concerning whom its opinion is divided, we find the Quebec procedures for recording and resolving dissents vastly superior to what prevails in Ontario. We note further that the Quebec procedure for resolving dissents provides a built-in review of the consistency of medical decisions.

On this last score, ACODC re-examinations provide their own opportunity for the Committee to review its own work. We would not wish this practice to change; the re-examination of claimants is necessitated in any event by the fact that asbestosis is normally progressive. However, we observe that the Quebec *modus operandi* again beckons because, quite aside from the procedure for resolving dissents, all panels regularly meet to review each other's recent findings and decisions.<sup>95</sup>

Attracted as we are by the features of the Quebec system, we consider it important to address the issue of whether their transplantation to Ontario might generate excessive demands on the limited pool of relevant medical practitioners. Restructuring the ACODC along the lines of the Quebec model would raise the Committee's membership from seven to twelve. Also to be borne in mind is the fact that an Ontario appeals system which incorporates Medical Review Panels will generate its own demands for physicians with similar expertise. The total numbers required, whether they amount to fifteen or twenty knowledgeable physicians, may appear small but even in a jurisdiction the size of Ontario, they may in fact be sizeable. Dr. Adam S. Little, in his review of Professor Barth's study, offered pointed reminders to this effect.<sup>96</sup> Diseases like asbestosis (and for that matter other diseases under the purview of the ACODC), because they are industry-specific, afflict only a small proportion of the general population. It follows that such diseases will be seen by a correspondingly small proportion of practising physicians. In turn, a number of medical practitioners within this small proportion are likely to be company physicians whose positions as such may leave them perceived as unsuitable for compensation work.

<sup>95</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, p. 2.29.

<sup>96</sup>Reviews of studies prepared for the Royal Commission on Asbestos: Adam S. Little, "Critique re: *Workers' Compensation and Asbestos in Ontario*," Victoria, B.C., 1982, p. 5. (Mimeographed.)

That these are genuine limitations cannot, as a general proposition, be denied. They may indeed have been exacerbated by prevailing Ontario practices. The Workers' Compensation Board has relied heavily on the Chest Surveillance Programme as a source of ACOCD members in the past. This is in part because of the experience that Programme physicians have gained in reading x-rays. But Dr. Gray, in his testimony before us, affirmed that a physician need not have been involved in this Programme to gain the relevant experience.<sup>97</sup> In Dr. Gray's opinion, the pool of potential ACOCD members embraces:

. . . a good many people who have expertise in lung disease and pulmonary disease, pulmonary function, pulmonary pathology, and I think with that group or that individual having an interest, and being put into such a thing as an advisory committee or some other group that is looking at occupational problems, he in time would develop an expertise.<sup>98</sup>

The Chest Surveillance Programme aside, Dr. Gray's opinion leads us to observe that the Board's accompanying practice of making ACOCD appointments tantamount to life terms has not abetted a dissemination of expertise among Ontario physicians. Moreover, this practice has yielded an ongoing situation where, as we estimate it, about half the current ACOCD membership hovers around retirement age. It follows that if Ontario has a shortage of physicians with experience in the realm of diagnosing industry-related pulmonary disease, that shortage is, at least in part, self-inflicted.

On the other hand, however, it is possible to approach the matter of Ontario's shortage, self-inflicted or otherwise, from a very different perspective. This is that the "shortage" rests upon an untenable notion of what constitutes the medical expertise necessary to diagnose pulmonary conditions that are industry-specific. At first blush, the notion that expertise should rest upon experience in diagnosing a quantity of these conditions appears reasonable. But it becomes increasingly untenable once it is placed in the context of the occupational health regime that now prevails in Ontario. Because they afflict a small subset of the general population, industry-specific diseases have always been exotic; the very thrust of the current Ontario occupational health regime, however, is to make these diseases extinct. For reasons given in Chapter 5, we have confidence that current levels of exposure will make asbestosis a disease of the past. It follows that over the next decade or two, the number of asbestosis cases will dwindle as inexorably as the number of workers who were exposed to the high dust levels of a decade or more ago. Physicians with any degree of quantitative experience in diagnosing asbestosis are therefore on their own

<sup>97</sup>RCA Transcript, Evidence of Dr. Cameron C. Gray, 16 July 1982, Volume no. 51, p. 17.

<sup>98</sup>*Ibid.*, p. 61.



inexorable path to extinction. This being so, it seems to us eminently reasonable to discount as increasingly untenable the notion that quantitative experience is a prerequisite for the expertise needed to diagnose the flow of compensation claims that remains. What is required instead is to seek out experienced physicians with broad diagnostic capabilities in the general run of pulmonary conditions and also physicians with perhaps less diagnostic experience but qualifications in occupational medicine. Such physicians should be sought out now, so that the specific experience possessed by the current senior members of the ACOCD can be imparted to them before it is dissipated by retirement. These current senior members, of course, are ideal candidates to chair the panels of a restructured ACOCD.

Through what sources might their new colleagues be selected? The Quebec system, as Professor Barth pointed out, rests upon close liaison with the four medical schools of that province. In our view, the Board should actively cultivate Ontario's five faculties of medicine as a source of new members for a restructured ACOCD. Furthermore, practising respirologists with broad diagnostic experience have become expert in assessing pulmonary function regardless of underlying cause; they can be sought out by drawing on the co-operation of such professional bodies as the Canadian Thoracic Society and the Specialty Committee in Respiratory Medicine of the Royal College of Physicians and Surgeons of Canada.

In light of all of the above considerations, we recommend that:

- 13.5** *The Corporate Board should increase the membership of the Advisory Committee on Occupational Chest Diseases (ACOCD) to not fewer than twelve physicians recommended by the Executive Director of the Board's Medical Services Division after consultation with appropriate university and professional bodies, and it should direct that the ACOCD be organized into not fewer than four subcommittees, each composed of three physicians including a subcommittee chairman designated by the Corporate Board.*

We further recommend that:

- 13.6** *The Corporate Board should issue the following procedural rules to conduct the operation of the Advisory Committee on Occupational Chest Diseases:*
- (i) Each subcommittee is to have the authority to diagnose claimants and assign claimants to classes of physical impairment.*
  - (ii) The clinical examination of every claimant is to involve the full membership of the subcommittee to whom the claimant is assigned.*
  - (iii) Every subcommittee report is to be signed by the full membership of the subcommittee, with any dissent recorded.*

- (iv) *In the event of subcommittee dissent, the relevant claim is to be reviewed by the chairmen of the three remaining subcommittees who shall then make the finding with respect to diagnosis and class of physical impairment.*
- (v) *The entire membership of the Advisory Committee on Occupational Chest Diseases is to review the findings of its subcommittees on a periodic basis.*

We now address a third procedural matter: the degree of overlap which has existed between the Chest Surveillance Programme of the Ministry of Labour and the Advisory Committee on Occupational Chest Diseases. At one level, this overlap is to us only one symptom of the long-standing lack of Corporate Board guidance and indeed interest in the workings of the ACOCD. We feel bound to point out that in two separate submissions we received from the Board, the first its written submission,<sup>99</sup> the second its “procedural guidelines” supplied as an exhibit during the testimony of the Executive Director of its Claims Services Division,<sup>100</sup> the ACOCD has been referred to as the “Advisory Committee (A/C) of the Ministry of Labour.”

More serious than such oversights is the annoyance that is aroused when claimants, particularly once they become privy to their files in the preparation of appeals, cannot distinguish what has come from the Chest Surveillance Programme and what is a finding of the ACOCD. Their confusion is compounded by the fact, mentioned earlier in this chapter, that the ACOCD writes its reports to the Board on Ministry of Labour stationery. The annoyance of confusion then becomes outright and justified indignation in those instances where a claimant finds he has been examined twice by the same physician but in different capacities unknown to the claimant: the first in the physician’s capacity with the Chest Surveillance Programme, the second in the physician’s different capacity as a member of the ACOCD.<sup>101</sup> For all this, the ACOCD has never been an organ of the Ministry of Labour and is well and truly a creature of the Workers’ Compensation Board pursuant to section 71(3)(g) of the *Workers’ Compensation Act*. The time to make this crystal clear is long overdue. For reasons that we will address momentarily, there is a single aspect of the overlap between the Ministry of Labour and the ACOCD that should continue: the facilities of the Medical Service Chest Clinic at 880 Bay Street in Toronto. Otherwise, we recommend that:

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<sup>99</sup>The Workmen’s Compensation Board, Ontario, Written submission to the Royal Commission on Asbestos, #69, 15 June 1981, p. 6.

<sup>100</sup>RCA Exhibit IV-1, The Workmen’s Compensation Board, Ontario, Assorted Policy Statements and Forms.

<sup>101</sup>RCA Transcript, Submission by Mr. Ed Cauchi on behalf of the Asbestos Victims of Ontario, 28 January 1983, Volume no. 58, p. 116.

**13.7 *The Corporate Board should adopt a rule whereby physicians engaged in the work of the Occupational Health Branch of the Ministry of Labour are ineligible for membership on the Advisory Committee on Occupational Chest Diseases and should take measures to ensure that the secretariat of this Committee is supplied solely by the Workers' Compensation Board.***

This much said, we believe that the Medical Service Chest Clinic facilities should continue to be shared by the Ministry of Labour and the ACOCD. Our reason is not historical but grounded in highly contemporary concerns. We recognize the value of the sequential x-rays produced by chest disease surveys to the diagnostic task of the ACOCD. We appreciate the fact that under the current designated substances regulations of the Ministry of Labour, new surveillance responsibilities fall on employers, but with the proviso that x-ray and pulmonary function facilities "... shall be engaged in a proficiency testing program with the [Ministry's] Occupational Health Branch."<sup>102</sup> In our view, it is of the utmost importance that the Government of Ontario facility with which employer facilities shall be engaged in proficiency testing should be the government facility devoted to purposes of both surveillance and compensation. It is of like importance that this government facility be periodically accredited by expert radiologists and respirologists with the same degree of thoroughness that pertains to hospital accreditations. We therefore recommend that:

**13.8 *The Occupational Health Branch of the Ministry of Labour and the Advisory Committee on Occupational Chest Diseases should continue to share the same x-ray and pulmonary function testing facilities, which should be accredited by an expert team of radiologists and respirologists at least every five years.***

## **C. Compensating the Survivors of Deceased Asbestotics**

### **C.1 The Current Setting**

An asbestotic who is receiving a permanent disability pension from the Workers' Compensation Board is a person whose condition has been recognized by the Board as arising from the workplace and whose award is proportional to the degree of impairment which the Board has assessed as arising from asbestosis. The death of such an individual does not occasion a new claim for survivor benefits. Instead, the Board automatically considers whether such benefits are warranted.

<sup>102</sup>Code for Medical Surveillance of Asbestos Exposed Workers, s. 4, in Regulation Respecting Asbestos, O. Reg. 570/82, made under the *Occupational Health and Safety Act*, R.S.O. 1980, c. 321.



This consideration begins at the moment that the Board, which has been mailing pension cheques to the individual concerned, becomes aware of the person's death, commonly by way of a telephone call.<sup>103</sup> Thereupon, the Claims Adjudication Branch takes the initial step of securing a copy of the death certificate to add to the already active claim file of the deceased. If the deceased was in receipt of a 100% permanent disability pension, survivor compensation is assured by section 43(7) of the *Workers' Compensation Act*, which mandates such compensation whatever the cause of death.<sup>104</sup> If, however, the deceased was in receipt of a *partial* disability pension, the Board is required to adjudicate whether or not survivor benefits are warranted. This requirement arises from the opening words of section 36(1) of the Act, which directs that survivor benefits flow, "Where death results from an injury." More specific still is the language of section 122(1), which stipulates that survivor benefits shall be allowed only if the victim's "... death is caused by an industrial disease and the disease is due to the nature of any employment in which he was engaged. . . ."

The deceased recipient of a partial disability pension for asbestosis was being compensated for a disease "due to the nature of [the] employment in which he was engaged." With respect to survivor benefits, the question for adjudication becomes: Was the death "caused" by this disease or by another disease which was also due to his employment? As we observe in Chapter 12, there is a noteworthy absence of any Board guideline or eligibility rule to structure the discretion of Board adjudicators with respect to the causality of death among asbestotics. To the extent that the death of such individuals arises from asbestos-related diseases other than asbestosis — namely, mesothelioma, lung, gastrointestinal, and laryngeal cancers — guidelines are available. But in the main, as we have come to understand it, Board procedure is to adjudicate the survivor claims of deceased asbestotics on a case-by-case basis.

Once the Claims Adjudication Branch has become aware of the partial disability pensioner's demise, it transfers the claim file to the Medical Services Division where, once again, the Board's Chest Disease Consultant, Dr. Stewart, or its Chest Disease Specialist, Dr. Dyer, takes charge. The file may contain, in addition to the death certificate, hospital records and the last attending physician's report.<sup>105</sup> Whatever the exact

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<sup>103</sup>RCA Transcript, Evidence of Mr. John F. McDonald, 14 July 1982, Volume no. 49, pp. 141-142.

<sup>104</sup>R.S.O. 1980, c. 539, s. 43(7) states: "A dependant of an employee who was, at the time of his or her death, in receipt of an award for permanent disability which the Board has rated at 100 per cent or, but for his or her death, would have been in receipt of an award for permanent disability at the rate of 100 per cent is entitled to compensation as if the death of the employee had resulted from the compensable disability for which he or she received or would have received the permanent disability award."

<sup>105</sup>RCA Transcript, Evidence of Mr. John F. McDonald, 13 July 1982, Volume no. 48, p. 11.

content of the file at the time it is received in the Medical Services Division, the Board physician will make what Professor Barth called “significant efforts” to obtain information.<sup>106</sup> This may include submissions from an attending specialist, the family physician, and — in instances where it has been performed — an autopsy report.

In assessing the information at hand, the Board physician does not rely solely on his own expertise. Depending on the nature of the case, he will turn to any or all of three sources of specialized advice. These are Dr. Alexander C. Ritchie, the Board’s consulting pathologist; Dr. Cameron C. Gray who, distinct from his membership on the ACOD, is available as chest disease consultant to the Board; and the ACOD itself. The ACOD will become involved if there are signs that the death might have been occasioned by asbestosis; alternatively, what could be asked of the ACOD is to determine whether the individual might have become 100% impaired between the date of his last clinical examination and the time of his death. Where other causes of death are suspected, Drs. Ritchie and Gray, rather than the ACOD, will be consulted. The pattern of consultations actually followed in concrete instances is not necessarily as tidy as this description implies, but this befits a situation where, in point of fact, the information at hand is often spotty, contradictory, or both. As Professor Barth observed, there is frequently a disparity in the stated cause of death as between the death certificate and the Registrar General’s form; death certificates often contain inadequate or incorrect information; and there has been a declining probability of autopsy in Ontario.<sup>107</sup> For his part, Dr. McCracken pointed out in testimony that the utility of hospital records varies with the care with which clinicians write their notes, and there are clinicians whose “. . . notes leave much to be desired. . . .”<sup>108</sup>

As best he can under the circumstances, the Board physician must find whether or not a claim warrants the payment of survivor benefits under the terms of the Act. He reports his finding to the Claims Adjudication Branch which, as usual, will grant the benefits if the recommendation is positive and forward the file to the Claims Review Branch if the recommendation is negative. The Claims Review Branch, in turn, does not appear to deviate from its normal practice of accepting the Board physician’s finding without question and notifies the survivor, usually the widow, that the Board is unable to grant entitlement to dependency benefits.

At this juncture, what seems to differentiate the survivor benefit claims of deceased asbestotics from other asbestos-related claims is an enhanced likelihood that appeals will be launched. The non-existence of

<sup>106</sup>Barth, *Workers’ Compensation and Asbestos in Ontario*, p. 3.8.

<sup>107</sup>Ibid., p. 3.7.

<sup>108</sup>RCA Transcript, Evidence of Dr. William J. McCracken, 20 July 1982, Volume no. 53, p. 22.

Board statistics on appeals precludes quantification, but this impression is sustained by the testimony of the Executive Director of the Board's Claims Services Division<sup>109</sup> and borne out (perhaps magnified) by the media publicity that some of these appeals have attracted.

That claim denials in cases of deceased asbestotics should be likely to give rise to appeals is readily understandable. The stakes — income support for a widow who likely is without other significant resources — are high. And the contentious nature of the situation is acutely accentuated by the fact that the deceased — precisely because he was in receipt of a permanent partial disability pension — was suffering from a disease whose direct work-relatedness was recognized by the Board.

Many of the adverse client perceptions that have so tainted the Board's image are associated with claim denials and appeals in cases of deceased asbestotics. We have not acquainted ourselves, save for one exception noted below, with the details of individual claims. But Professor Barth, who reviewed a sample of claims on our behalf, observed that the concept of aggravation rarely seems to enter into the consideration of such claims.<sup>110</sup> Dr. Annalee Yassi, who reviewed another sample of claims for the Weiler inquiry, reported many instances of conflicting medical opinion, even among Board doctors themselves. She noted, with respect to at least one-quarter of the claims which she reviewed, that it was not obvious to her why the claim was either allowed or rejected.<sup>111</sup> Then there is the celebrated case of the late Mr. John Dodds, whose explicit details were made part of the record of our own inquiry by his widow, Mrs. Odette Dodds.<sup>112</sup> This case offers one of the rare instances in which the Corporate Board itself saw fit to make the ultimate appeal decision. The Corporate Board allowed this claim on the ground that surgery on a thyroid condition had not been performed, on the advice of the claimant's doctors, due to the claimant's asbestosis. As this claim progressed through the appeals structure, it is evident that the Board's doctors supported its denial on grounds that led them to go beyond disputable medical evidence to question the competence of the treating physicians.

Everything we have said in endorsing a revised Board appeals structure, with its favourable implications for the balancing of different medical opinions, applies with force to claims of deceased asbestotics. Presently, our attention must focus upon the level of primary adjudication. Here, what

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<sup>109</sup>RCA Transcript, Evidence of Mr. John F. McDonald, 13 July 1982, Volume no. 48, pp. 12-13.

<sup>110</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, pp. 3.8-3.9.

<sup>111</sup>Yassi, "Occupational Disease and Workers' Compensation in Ontario: A Report for the Weiler Inquiry," chap. 4.

<sup>112</sup>Odette Dodds, Written submission to the Royal Commission on Asbestos, #75, 28 September 1981; and RCA Transcript, Submission by Mrs. Odette Dodds, Asbestos Victims of Ontario, 5 July 1982, Volume no. 47(B), pp. 12-20.



we distil from the observations of researchers and the record of our inquiry disturbs us. Our paramount impression is that Board adjudicators do not appear, on balance, to have approached the claims of deceased asbestotics with a mind-set attuned to the reality of medical uncertainty. This contrasts with the impression we formulated in the realm of asbestos-related lung cancer claims that fall short of satisfying the relevant Board guideline. In this realm, on the basis of the evidence cited in Chapter 12, we expressed the opinion that Board adjudicators give no appearance of a negative mind-set. Why should two realms of primary adjudication involving basically the same Board personnel create these contrasting impressions? We do not pretend to be able to answer this question in any definitive way, but we are instinctively drawn to attach importance to the obvious: in the realm of asbestos-related lung cancer, adjudication is guided by a Board eligibility rule; in the realm of deceased asbestotics, it is not.

## C.2 Structuring the Board's Discretion

We need hardly review the general arguments, developed at length in Chapter 12, for structuring the Board's discretion through formal eligibility rules whose content is known to both adjudicators and claimants. Such rules serve the goal of horizontal equity and simplify adjudication. In the process, they permit primary adjudicators to focus their attention on the claims that deserve it most: namely, the claims which, because they do not satisfy all the terms of the rules, warrant detailed scrutiny. We can find no reason to countenance the continued absence of an eligibility rule in the realm of deceased asbestotics. The Board has dealt with a substantial number of claims in this realm; such claims are therefore anything but unfamiliar.

The matter of devising an eligibility rule is facilitated by the approach that we have recommended be followed in determining the percentage impairment of asbestosis victims. Once due allowance is made for psychological as well as physical impairment, individuals whose asbestosis has been clinically measured as Severe will be deemed 100% impaired. Upon death, this 100% impairment guarantees survivor benefits pursuant to section 43(7) of the Act, whose basic intent is carried forward by the legislative exposure draft in the *White Paper on the Workers' Compensation Act*.<sup>113</sup> Accordingly, the matter of devising a specific eligibility rule for deceased asbestosis victims is confined to those who suffered from Mild or Moderate impairment, and we would not have it otherwise. We deem the automatic survivor benefits that flow from section 43(7) particularly appropriate to the situation of victims whose death occurs in the more advanced stages of

<sup>113</sup>"Appendix I: Draft Bill to Amend the *Workmen's Compensation Act*, s. 30(2)," in Ontario, Ministry of Labour, *White Paper on the Workers' Compensation Act* [Toronto: Ontario Ministry of Labour, 1981], p. 26.

asbestosis. While there is always room for medical uncertainty, the possibilities that the death of an asbestotic was not related to his condition are distinctly narrowed above the Mild and Moderate categories of impairment. For example, bronchial pneumonia is a common terminal illness, whether or not an individual is suffering from asbestosis. However, asbestosis makes individuals more vulnerable to bronchial pneumonia, and we have already cited testimony on the relationship between bronchial pneumonia and severe asbestosis.<sup>114</sup> Again, in the case of coronary artery disease, there is little direct evidence of any relationship between asbestosis and the development of coronary artery atherosclerosis and thrombosis. But if asbestosis is severe enough to diminish the oxygen level in the blood, inadequate oxygen supply to the cardiac tissues could contribute to the fatality of asbestotics also afflicted with coronary disease. With respect to the strength of the linkage between asbestosis and various immediate causes of death, individuals with Severe impairment are in our judgement appropriately distinguishable from those with Mild or Moderate impairment.

In the matter of devising an eligibility rule for deceased asbestosis victims who suffered from Mild or Moderate impairment, we find it reasonable for the time being to derive the terms of the rule from current Board practice. According to the testimony already cited, survivor benefits are invariably allowed where the victim of asbestosis died of this disease, or of mesothelioma, lung, laryngeal, or gastrointestinal cancer, or *cor pulmonale*. While there is a certain redundancy, given already existing Board guidelines, in naming all these immediate causes of death in the eligibility rule, we deem this desirable to ensure that the deceased claimant's survivors are fully informed. This eligibility rule, like all other Board-promulgated industrial disease rules, should be reviewed from time to time by our proposed Advisory Council on Industrial Disease Policy. We recommend that:

*13.9 The Workers' Compensation Board, by directive of the Corporate Board, should promulgate an eligibility rule whereby survivors of deceased individuals who were rated by the Board as suffering Mild or Moderate impairment from asbestosis shall be entitled to benefits if death resulted from asbestosis, mesothelioma, lung, laryngeal, or gastrointestinal cancer, or cor pulmonale.*

The above eligibility rule will, of course, leave a number of claims for detailed scrutiny on a case-by-case basis. These cases are difficult. Individuals who were mildly or moderately impaired may die from a variety of causes that more or less arose from their asbestotic condition or that were aggravated because the presence of asbestosis narrowed the range of effective medical treatment. Given medical uncertainty, benefit of doubt has a central role in case-by-case adjudication. Of course, this is as true of disease

<sup>114</sup>RCA Transcript, Evidence of Dr. Cameron C. Gray, 16 July 1982, Volume no. 51, p. 52.

claims as it is of survivor claims. Therefore, we presently address the importance of benefit of doubt in a general context.

## D. Benefit of Doubt Policy

The Board's benefit of doubt policy was described in Chapter 12 and has been referred to at a number of points in the present chapter. In our judgement, a policy of this kind is eminently desirable and justifiable on three grounds. First, benefit of doubt provides a fair and practical way of addressing the medical uncertainty that enshrouds a substantial volume of industrial disease claims. Second, benefit of doubt combats what, in any agency endowed with broad administrative discretion, is the danger — particularly acute when guidelines or eligibility rules are in place — that adjudicators might approach claims which do not satisfy the terms of the rule with a negative mind-set. Third, benefit of doubt is fully in line with the historic tradeoff whereby workers' compensation was provided in lieu of the common law right of employees to sue their employers for damages. In civil liability cases, the plaintiff must prove his case on the balance of probabilities. This means that if the evidence is evenly balanced as between the plaintiff and the defendant, the plaintiff will not succeed. Benefit of doubt is consistent with the thrust of holding workers' compensation claimants to standards that enhance their chances of recovery from the chances they would have if their common law rights had not been taken away.

The Board's benefit of doubt policy serves all of the above. Its application, however, is uneven. In line with benefit of doubt is our finding that asbestos-related lung cancer claims outside the terms of the relevant guideline have not been approached with a negative mind-set. At odds with benefit of doubt, on the other hand, is our finding that the adjudication of claims involving deceased asbestotics has not been attuned to medical uncertainty. Meantime, with respect to assessing the degree of impairment occasioned by asbestosis, the benefit of doubt policy is not communicated to the ACOCD. The result, because ACOCD findings are accepted in turn by the Board physician and by non-medical adjudicators, is that benefit of doubt is mute in the realm of asbestosis.

There is an evident need to ensure the even application of benefit of doubt in Board adjudication. This can be promoted by elevating benefit of doubt to the level of a statutory rule. The legislative exposure draft that accompanies the *White Paper on the Workers' Compensation Act* contains an important clause to this effect. Section 6(7) of the exposure draft states the following:

In determining any claims for benefits under this Act the decision shall be made in accordance with the merits and justice of



the case and where there is doubt on an issue and the disputed possibilities are evenly balanced, the issue shall be resolved in accordance with that possibility which is favourable to the worker.

That this language gives statutory effect to benefit of doubt is entirely apparent. In civil liability cases, as we have pointed out, the plaintiff will not succeed if the balance of probabilities is even. Section 6(7) stipulates that an even balance shall be resolved in favour of the claimant. We are in accord with elevating benefit of doubt to the level of the *Workers' Compensation Act*.

To be sure, the language of the legislative exposure draft is not the only way to give statutory expression to benefit of doubt. A particular example of alternative language was brought to our attention at our final public hearing by counsel for the Asbestos Victims of Ontario and the Iron Workers' Union, Mr. David Starkman.<sup>115</sup> This example is found in section 85 of the *Pension Act* of the Parliament of Canada.<sup>116</sup> In the matter of pensions for past or present members of the armed forces who have been disabled or died as a result of military service, the Canadian Pension Commission and its emanations are instructed, in section 85, to apply benefit of doubt in the following words:

85. The Commission, an Entitlement Board and the Pension Review Board shall, in determining the entitlement of an applicant to an award and in assessing the extent of the disability of a member of the forces to or in respect of whom entitlement to a pension has been established

(a) draw from all the circumstances of the case and all the evidence presented to it every reasonable inference in favour of that applicant or member, and

(b) accept as proof of any fact that the applicant or member is required to prove, any credible evidence submitted by him that is not contradicted and where, in weighing any evidence submitted to it, any doubt exists as to whether the applicant or member has established his case, the Commission, an Entitlement Board or Pension Review Board, as the case may be, shall resolve such doubt in favour of the applicant.

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<sup>115</sup>RCA Transcript, Submission by Mr. David Starkman on behalf of the Asbestos Victims of Ontario and the International Association of Bridge, Structural and Ornamental Iron Workers, Local 721, 28 January 1983, Volume no. 58, pp. 19-20.

<sup>116</sup>*Pension Act*, R.S.C. 1970, c. P-7, as am. by R.S.C. 1970 (2d Supp.), c. 22, s. 85.

As we read it, the degree of benefit of doubt spelled out by the *Pension Act* is at least as great as that articulated by the language of the *White Paper* legislative exposure draft. It is arguable that the degree of benefit of doubt accorded by the federal statute might be somewhat greater; were this to be so, our respect for the elusive boundaries of medical uncertainty would lead us to favour its formulation. Whatever the case, a decisive consideration in favour of the language of the federal *Pension Act* lies in what we discern as its fuller elaboration of benefit of doubt and consequent clarity to persons who are not legally trained. The latter characteristic, of course, describes the Board's physicians, its lay adjudicators, and the vast run of its claimants. Concluding as we do that benefit of doubt should be elevated to the level of the *Workers' Compensation Act*, and that the language of the federal *Pension Act* provides an attractive model on which to base the pertinent clause, we recommend that:

*13.10 The Workers' Compensation Act should be amended so as to extend to claimants benefit of doubt in a manner consistent with that found in the Pension Act of the Parliament of Canada.*

## E. Communicating with Claimants

Whether statutorily enshrined or promulgated by the Corporate Board, eligibility rules, benefit of doubt policy, and review or appeal mechanisms are instruments meant to ensure that justice is done to workers' compensation claimants. But justice must also be *seen* to be done. What is by now a tiresomely reoccurring theme in our review of Board practice with respect to asbestos-related disease is that the Board has too often veiled otherwise commendable efforts to promote justice from the view of its claimants.

Much more can and should be done to dispel the aura of mystery that has so promoted the perception of the Board as arbitrary and capricious. Our recommendations concerning the public dissemination of eligibility rules and the importance of written appeal decisions are measures designed to serve this end. But however publicly it may be disseminated, the quantity and complexity of information concerning Board practices ensures that it will only be grasped fully by a knowledgeable few. We therefore consider it essential that the Board adopt a policy of communicating pointed information, rationed on the basis of its pertinence, directly to the individual claimants to whom it communicates its decisions.

We have sampled a number of the letters through which the Board informs claimants of the disposition of their cases. Four examples of the letters that are sent to asbestosis claimants were reproduced in Professor

Barth's study.<sup>117</sup> We also secured from the Board examples of the letters that are sent to survivors of deceased asbestotics.<sup>118</sup>

The letters reproduced by Professor Barth included: (i) a letter denying a claim for a partial disability pension; (ii) a letter granting a claim for a partial disability pension; (iii) a letter reporting that given a finding of no progression in an asbestotic condition, no change in the amount of partial disability pension is warranted; and (iv) a letter reporting that given the recognition of a higher degree of impairment at the most recent clinical examination, the partial disability pension is being increased. All four letters contain the following identical paragraph:

If you have any reasons for objecting to this decision or have any concerns or questions about the matter, please let us know as soon as possible.

The appearance of this paragraph in all four letters is warranted because, in the case of a progressive disease like asbestosis, even a successful claimant might believe that there are grounds on which to appeal for a higher partial disability pension. However, the wording of this paragraph makes no explicit mention of the claimant's *right* to appeal; even less does it tell the claimant how to go about launching an appeal. The Board publishes a useful booklet, in five languages, on how to appeal its decisions.<sup>119</sup> This booklet, among other things, refers to the services of the Workers' Advisors, whose services are available without charge to aid in preparing and presenting appeals. We have no indication that this booklet is enclosed with the letters just cited as a matter of course.

The letters sent to survivors of deceased asbestotics differed from the four sent to asbestosis victims. The two such letters we sampled, both reporting denial of survivor benefits, state explicitly:

The above decision is open to appeal and information on the appeals procedure may be found in the attached pamphlet.

This is self-evidently a much clearer communication. We urge that the Board standardize its communications with claimants so as to ensure, in all appropriate instances, that the claimant understands that he has a right to appeal and possesses the publication on how to launch an appeal. Still more information is desirable. Whenever a disease claim falls in a realm that is

<sup>117</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, pp. 2.37–2.40.

<sup>118</sup>Letter and attachments from Mr. Alex Joma, Secretary, Workmen's Compensation Board to the Royal Commission on Asbestos, 3 August 1982.

<sup>119</sup>Letter and attachments from Mr. Alex Joma, Secretary, Workmen's Compensation Board to the Royal Commission on Asbestos, 23 August 1982, including WCB booklet, *Making an Appeal*.



encompassed by an eligibility rule and is denied by the Board as failing to satisfy the terms of that rule, the claimant should be sent a copy of the rule in question. We recommend that:

***13.11 The Board should adopt a standardized form of communication with claimants which ensures:***

- (i) that all claimants for whom it is pertinent shall know that they have an explicit right to appeal and are informed of the procedures for launching an appeal; and*
- (ii) that all claimants whose disease is the subject of an eligibility rule shall have a copy of the pertinent eligibility rule.*

With respect to the survivors of deceased asbestotics, there is a special matter to which Professor Barth called attention. This is that the deceased claimant's survivors may not be aware that the Board is proceeding to adjudicate a question of great economic importance to them.<sup>120</sup> As we have pointed out, the death of an individual who was in receipt of a disability pension does not occasion a new claim for survivor benefits; the Board quite properly considers whether such benefits are warranted as a matter of course. But it is only claims arising from the death of an individual already rated as 100% impaired which can, by virtue of section 43(7), be adjudicated expeditiously. In all other instances, either the cause of death must be determined or the ACOD must be asked whether the claimant might have become 100% impaired since the date of his last examination. The time required for the adjudicative process may well be drawn out by the sketchy information in the hands of the Board, information which the survivors might be in a position to supplement.

In our judgement, the situation can be ameliorated through two measures. First, individuals who are in receipt of partial disability/impairment awards should be informed of the rules pursuant to which their survivors may be eligible for benefits in the event of death. Second, in all instances where the Board has been unable to grant survivor benefits within one month of death, the claimant's survivors should be informed that the Board is adjudicating the matter, given copies of the pertinent eligibility rules, and asked to bring forward any relevant information. We recommend that:

***13.12 The Workers' Compensation Board should adopt a standardized practice whereby:***

- (i) recipients of partial disability/impairment awards are informed of the rules pursuant to which their survivors may be eligible for benefits in the event of death; and*

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<sup>120</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, pp. 3.11, 9.12-9.13.

- (ii) in all instances where the Board has been unable to grant survivor benefits within one month of death, the claimant's survivors shall be notified that the matter is under adjudication, provided with the pertinent eligibility rules, and asked to bring forward any relevant information.*

# **Appendix to Chapter 13**

## **Ontario Workers' Compensation Board**

### **The Adjudication of Claims for Psychotraumatic Disability**

An employee is entitled to benefits when personal injury is sustained through an accident which arises out of and occurs in the course of employment. "Injury" includes both physical and emotional disability.

#### **1. General Rule**

Where it is evident that a diagnosis of a psychotraumatic disability is attributable to a compensable injury or its sequelae, entitlement shall be granted providing that the psychotraumatic disability became manifest within five years of the injury, or within five years of the last surgical procedure.

Psychotraumatic disability is considered to be a temporary condition. Only in exceptional circumstances will this type of disability be accepted as a permanent condition.

#### **2. Psychotraumatic Disability Entitlement**

Entitlement for psychotraumatic disability may be established when the following circumstances exist or develop:

2.1 Organic brain syndrome secondary to: traumatic head injury, toxic chemicals including gases, hypoxic conditions or conditions related to decompression sickness.

2.2 As an indirect result of a physical injury.

2.2.1 Emotional reaction to the accident or injury.



### 2.2.2 Severe physical disability.

### 2.2.3 Reaction to the treatment process.

2.3 The psychotraumatic disability is shown to be related to extended disablement and to non-medical, socio-economic factors, the majority of which can be directly and clearly related to the compensable injury.

## 3. Other Factors

The following relevant points should be evaluated in assessing the extent of psychotraumatic disability entitlement:

3.1 *Prior History* — In all cases where history of a prior psychiatric condition has been shown to exist, the question of allowance on an aggravation basis shall be considered, having regard for the emotional effect of the occupational occurrence and its sequelae.

3.2 *Unrelated Psychiatric Disability* — In some cases, psychiatric disability may become apparent in an otherwise uneventful case, and enquiry establishes its origins to other factors (such as family crisis), having no relationship whatsoever to the accident. On medical advice and under the provisions of section 23 of the Act, allowance may be made for concurrent treatment. The psychiatric treatment will be in order during the period of active treatment for the physical disability, so long as such treatment enhances the recovery of the physical disability, in the opinion of the Board.

## 4. Second Injury and Enhancement Fund Relief

In claims for psychotraumatic disability, the Board approved policy regarding the aggravation of pre-existing conditions and application of the Second Injury and Enhancement Fund shall be applied.

## 5. Benefit of Doubt

Claims which do not meet the above criteria shall be individually judged on their own merits having regard for the evidence submitted. The benefit of doubt applies.

Approved by the Board February 9, 1982.

SOURCE: The Workmen's Compensation Board, Minute #11, 9 February 1982, p. 4951.

## **Chapter 14 Rehabilitation, Outreach, and Prevention**

### **A. Rehabilitation: Retrospect and Prospect**

The Workers' Compensation Board has made pioneering efforts in the matter of rehabilitating employees whose past exposure to a hazardous substance may constitute cause for removing them from further exposure. Specifically in the realm of asbestos, the Board devised a Special Rehabilitation Assistance Programme (SRAP) whose primary focus was upon the employees of the Johns-Manville plant in Scarborough. In support of this Programme, Board physicians devised a rule which to the best of our knowledge is unique to Ontario: the Asbestos Fibre Dust Effect (AFDE) guideline.

The SRAP experience has been hedged by controversy, both within the Board and externally. More importantly, the SRAP experience has portents for the future. This is because the Regulation Respecting Asbestos formulated by the Ministry of Labour features explicit provisions covering the removal of designated workers who have been exposed to asbestos and assigns a specific role to the Workers' Compensation Board in their rehabilitation. We shall first examine the SRAP experience and then assess the prospects of the approach envisaged by the Asbestos Regulation.

#### **A.1 The Special Rehabilitation Assistance Programme**

By 1975, the outline of what this Report has categorized as a world-class occupational health disaster at the Johns-Manville plant in Scarborough had become sufficiently discernible to preoccupy the Ontario Legislature. Political pressure from organized labour, coupled with concerns expressed by members of the New Democratic Party on the floor of the

Legislative Assembly,<sup>1</sup> prompted the Workers' Compensation Board to devise a special programme for asbestos workers. The Board's efforts in this regard were initiated in October 1975.<sup>2</sup>

The Board launched these efforts from a base of experience in worker rehabilitation which has earned it a reputation such that, in Professor Peter S. Barth's words, "... Ontario is held up around the world as a model jurisdiction in the area of rehabilitation."<sup>3</sup> In the realm of industrial disease occasioned by exposure to hazardous dust, the Board, earlier in 1975, had taken an unprecedented initiative announced in May by the Minister of Labour. This initiative targeted upon workers who had been adversely affected by exposure to silica dust, radiation, or both in the Elliot Lake uranium mines.<sup>4</sup> In fashioning a special programme tailored to asbestos workers, the Board had reason to be conscious of its Elliot Lake initiative.

The Board assigned the task of devising a programme for asbestos workers to its Claims Services Division and to what was then its Rehabilitation Services Division.<sup>5</sup> The latter included all the organizational elements which subsequently, in 1978, were designated as the Medical Services Division.<sup>6</sup> In performing their task, the Board physicians, including the Board's Chest Disease Consultant, Dr. Charles Stewart, faced a challenge: to find a means of identifying workers who might be eligible for rehabilitation yet who had not already been afflicted by asbestos-related disease. This, of course, was crucial to the very concept of a special rehabilitation programme: individuals already suffering from asbestosis were eligible for the Board's rehabilitation services as a matter of course; the central idea of a special programme was to extend rehabilitation to persons not already suffering from asbestosis.<sup>7</sup>

In the case of Elliot Lake miners exposed to silica dust, this question had been easily resolved. The Elliot Lake situation called for the determination of a medical condition that could be taken as a harbinger of silicosis: a state of pre-silicosis. The material for making this determination was read-

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<sup>1</sup>Energy and Chemical Workers Union, Written submission to the Royal Commission on Asbestos, #32, January 1980, pp. 24-27.

<sup>2</sup>The Workmen's Compensation Board, Ontario, Written submission to the Royal Commission on Asbestos, #69, 15 June 1981, p. 56.

<sup>3</sup>Ontario, Royal Commission on Asbestos, Transcript of Public Hearings [hereafter RCA Transcript], Evidence of Professor Peter S. Barth, 24 August 1982, Volume no. 57, p. 104.

<sup>4</sup>The Workmen's Compensation Board, Ontario, Written submission to the Royal Commission on Asbestos, #69, 15 June 1981, p. 53.

<sup>5</sup>*Ibid.*, p. 56.

<sup>6</sup>RCA Transcript, Evidence of Dr. William J. McCracken, 20 July 1982, Volume no. 53, pp. 5, 92.

<sup>7</sup>RCA Transcript, Evidence of Mr. John F. McDonald, 13 July 1982, Volume no. 48, pp. 143-145.



ily at hand.<sup>8</sup> Chest stations for the surveillance of miners had been established throughout Ontario in 1929. The activity of these stations wrought the development of an x-ray classification scheme based on a South African system. The scheme featured the following codes: Code One was a perfectly normal chest; Code Two involved a slight increase in markings; Code Three was a moderate increase in linear markings; and Code Four denoted a beginning of lace-like or net-like change called arborization. In Dr. Stewart's words, the latter involved "... some obscuring of the normal pattern, possibly also including some very small pinpoint, pinhead-size inclusions that were not recognized as nodules."<sup>9</sup> The next stage — Code Five — revealed frank nodulation and hence permitted a diagnosis of silicosis. Accordingly, Code Four could be taken as identifying pre-silicosis. The confidence with which this conclusion could be drawn was supported by what over the years had developed into a statistical system embracing 60,000 miners with hundreds of thousands of associated records.<sup>10</sup> Code Four was therefore designated as the threshold for entry into the Board's Elliot Lake removal and rehabilitation programme; this later received the approbation of the Royal Commission on the Health and Safety of Workers in Mines (the Ham Commission), which was sitting at the time this programme was devised.<sup>11</sup>

In fashioning a special programme for asbestos workers, the Board physicians had to find a means of identifying individuals whose condition could be taken as a harbinger of asbestosis. Chest surveillance records of asbestos workers went back to 1947, but statistics had not been developed.<sup>12</sup> Furthermore, the x-ray code that permitted the discernment of pre-silicosis could not identify pre-asbestosis. In the asbestos case, according to Dr. Stewart's testimony, x-ray changes differ because "... the changes in pre-asbestosis are in the lower lung fields and they are interstitial and linear, they are not nodular."<sup>13</sup> Given the consequent irrelevance of Code Four to asbestos-exposed workers, the Board physicians had to examine individual x-ray reports from the Chest Surveillance Programme. These reports, rather than coding changes beyond Code Three, would describe them. They would describe, in Dr. Stewart's words, "... changes that relate to the linear pattern in the lower lung field as being slightly increased, or slight interstitial change suggestive of mild fibrosis, slight blunting of the costophrenic

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<sup>8</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, pp. 14-24.

<sup>9</sup>Ibid., p. 16.

<sup>10</sup>Ibid., p. 18.

<sup>11</sup>Ontario, *Report of the Royal Commission on the Health and Safety of Workers in Mines* (Ham Report), James M. Ham, Commissioner (Toronto: Ministry of the Attorney General, 1976), pp. 56-57.

<sup>12</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, pp. 106-107.

<sup>13</sup>Ibid., p. 23.

angles.”<sup>14</sup> On the basis of such descriptions, the Board physicians fashioned what was approved by the Corporate Board as the Asbestos Fibre Dust Effect (AFDE) guideline. The text of this guideline is as follows:

It is recommended that a case be accepted as showing AFDE when the following circumstances apply:

1. — an adequate history of exposure is documented — a minimum of 10 years unless an unusual intensity exposure is established.
2. — when at least two of the following radiological signs are present:
  - 2.1 — intralobar pleural thickening (major or minor fissures);
  - 2.2 — variable obliteration of the costophrenic angles;
  - 2.3 — variable pleural thickening of a focal or plaque-like nature along the lateral chest wall or diaphragm is noted.
3. — and when in addition at least two of the further following radiological signs are present:
  - 3.1 — horizontal linear markings 1.3 mm. thickness in the lower zones usually bilateral;
  - 3.2 — a general coarsening of the lower zone linear pattern with partial replacement by a reticular or net-like pattern;
  - 3.3 — superimposed of minute bead-like opacities, 1–2 mm. in diameter over or adjacent to the lower zone pulmonary arterial tree.
4. — these changes described above must have occurred during the preceding 5- to 10-year period.
5. — the vital capacity studies may have shown changes over the past 5 years although the last result is still within normal limits.<sup>15</sup>

With the AFDE guideline in place, the Special Rehabilitation Assistance Programme was announced amidst considerable publicity by the Minister of Labour on May 13, 1976. In line with the Elliot Lake programme, the SRAP extended Board assistance, on a voluntary basis, to employees who, either because they had asbestosis or met the terms of the

<sup>14</sup>Ibid., p. 22.

<sup>15</sup>Workers' Compensation Board, Claims Services Division, *Board Policies and Administrative Directives* [manual continually amended], pp. 197C–197D.

AFDE guideline, wished to be removed from the risk of further exposure to asbestos. Assistance could take the form of Board rehabilitation benefits designed to make up the difference between former wages and lower wages in non-exposure employment. Alternatively, benefits up to the equivalent of full compensation were available if the employee wished to undergo Board-financed retraining for suitable non-exposure employment and could be applied to make up any wage difference in employment that followed retraining. Benefits were also payable, along with travel and removal allowances, to employees who might seek or receive work in new locations. The administration of the SRAP came under the Board's Vocational Rehabilitation Division. Consideration for admission to the SRAP involved an initial employee interview with a team composed of representatives of this Division, the Medical Branch, and the Claims Adjudication Branch.<sup>16</sup>

Interviews were initiated within a month of the ministerial announcement of the SRAP. It was clear from the Programme announcement that an individual must be either asbestotic or satisfy the AFDE guideline to be eligible. But a crucial programme element was missing and yet to be determined. This was the question of designating the employment from whose associated exposure risk a worker might seek to be removed.

In the case of the Elliot Lake programme, the straightforward answer had been to designate underground work as risk employment, thereby extending rehabilitation benefits to miners who wished to remove themselves from exposure risk either by working above ground or by seeking work in other mines. In this connection, it is to be noted that the Elliot Lake programme aimed to reduce *relative* exposure risk. As Dr. Stewart testified, ". . . one of the underlying planks of the [Elliot Lake] programme in its conception was the acceptance . . . of low exposure alternatives . . . . So that there was never, from the start, the necessity that there be an absolute lack of exposure in the alternative job location. . . ."<sup>17</sup>

Even as the SRAP interviews proceeded at the Johns-Manville plant, the Board physicians had to unravel the outstanding question of what constituted risk employment in that plant. This question was not resolved until January of 1977. The Board awaited while a new set of dust samples was taken by the Occupational Health Branch of the Ministry of Labour. On the basis of the sample results, the Board's Chest Disease Consultant, Dr. Stewart, recommended that the Transite pipe production portion of the plant be designated as its only hazardous area.<sup>18</sup> Transite pipe shipping and receiving should not be designated because some of the work was done out of doors and the range of fibre counts inside was ". . . mostly under 0.5

<sup>16</sup>Ibid., pp. 197E-197G.

<sup>17</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, pp. 106-107.

<sup>18</sup>Ibid., p. 104.



fibres.”<sup>19</sup> The Corporate Board accepted Dr. Stewart’s recommendation. Accordingly, the only employees eligible for the SRAP would be those who, being asbestotic or meeting the AFDE guideline, worked in Transite pipe production or staffed the plant’s erection and repair division. The latter were included because “. . . a great portion of their time and duty was spent in the Transite pipe production area on maintenance repair work. . . .”<sup>20</sup>

All this was delineated in January 1977. In a setting where interviews had been ongoing for seven months, grounds for confusion could scarcely have been more fertile. It becomes entirely understandable to us why workers, or for that matter union officials, might have formed the impression that asbestosis or AFDE alone constituted the necessary and sufficient condition for entry into the SRAP. A programme which, at its inception, spoke of removal from risk employment without designating where such employment might be located invited the interpretation that the risk area might well encompass the entire plant. Board officials themselves were caught up in the confusion. During cross-examination by Mr. Ed Cauchi of the Asbestos Victims of Ontario, the Board’s Rehabilitation Specialist, Mr. William D. Pearce, testified that between June 1976 and January 1977, individuals admitted into the SRAP included employees from the shipping department, from fibreglass and Thermobestos, and even one salaried employee.<sup>21</sup> These individuals were retained in the Programme after January 1977, in deference to the Board’s benefit of doubt policy.<sup>22</sup> This, however, only added the perception of inequity to the indignation of employees subsequently denied entrance to the Programme because they were not in the designated risk area. Sentiments of confusion, frustration, and inequity still ran high in the summer of 1982, when we heard formal testimony on the SRAP.

And with the passage of time, the SRAP had not stood still. Eligibility criteria were redefined when Transite pipe manufacturing was terminated at Johns-Manville in May of 1980. Following the shutdown, and in the wake of consultations between the Minister of Labour and the Board, it was announced that, with respect to ex-employees in Transite pipe who were employed elsewhere in the plant, the Board would waive the requirement for being at risk if it appeared to the Board that for medical reasons such employees appeared incapable of carrying out their new duties.<sup>23</sup> In the result, the SRAP was no longer a programme to remove workers with asbestosis or AFDE from further exposure to asbestos. It was instead what

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<sup>19</sup>Ibid., p. 105.

<sup>20</sup>RCA Transcript, Evidence of Mr. William D. Pearce, 19 July 1982, Volume no. 52, p. 8.

<sup>21</sup>RCA Transcript, Evidence of Mr. William D. Pearce, 12 August 1982, Volume no. 56, pp. 50, 52.

<sup>22</sup>Ibid., p. 51.

<sup>23</sup>Ibid., pp. 20–21.

could be termed a pilot programme in compensating and rehabilitating workers who were medically impaired, or might become impaired, on the basis of their socio-economic disability. Other changes that had been made were in line with this thrust: the Board had decided in 1977 that partial disability pensions for asbestosis were not to be deducted from wage-loss benefits; these benefits in turn had become open-ended when the Board removed an initial one-year limitation on their payment; and for its part, Johns-Manville in December of 1979 volunteered to continue its benefit coverage of workers entering the SRAP.<sup>24</sup>

The Board reported to us that, as of August 10, 1982, 83 individuals had been recognized over the life of the SRAP as being afflicted with asbestosis or AFDE.<sup>25</sup> Of these, 35 failed to qualify for the Programme because they had not been considered at risk. Forty-one did qualify: this total included the employees not at risk but deemed qualified in the confusion of the SRAP's early months, and also included 9 employees who qualified after the Board had waived the requirement for being at risk. Twelve of the 41 refused the Programme, leaving 29 who were admitted. Twenty-six individuals remained on the Programme as of August 10, 1982: 11 were employed at reduced wages and hence were receiving benefits to restore their earning power to its previous level; 6 were in formal training; 5 were being assessed for training or job placement; and 4 were undergoing medical treatment. Three individuals had left the Programme: 2 for retirement and one who was deemed fully rehabilitated, having found full-time employment in the field in which he had received the benefit of training.

What can be said of the SRAP experience? In his study for this Commission, Professor Peter S. Barth expressed the opinion that: "Rarely if ever has the WCB been involved with a less successful effort . . . The programme could serve as the source for a lesson in public administration courses on how not to formulate and operate government programmes."<sup>26</sup> In its commentary on the Barth study, the Board made no reference to this severe judgement but considered ". . . that despite the conflicts, confrontations and difficulties [the SRAP] was a necessary venture from which some good may eventually result."<sup>27</sup> Our own observations are as follows.

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<sup>24</sup>Peter S. Barth, *Workers' Compensation and Asbestos in Ontario*, Royal Commission on Asbestos Study Series, no. 2 (Toronto: Royal Commission on Asbestos, 1982), p. 8.7.

<sup>25</sup>The data in this paragraph are drawn from Ontario, Royal Commission on Asbestos, Exhibit IV-8 [hereafter RCA Exhibit], in RCA Transcript, Evidence of Mr. William D. Pearce, 12 August 1982, Volume no. 56, p. 19: The Workmen's Compensation Board, Ontario, Data re Special Rehabilitation Assistance Programme.

<sup>26</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, p. 8.1.

<sup>27</sup>The Workmen's Compensation Board, "Comments on the Study and Review Papers on Workmen's Compensation and Asbestos in Ontario," Toronto, 6 August 1982, p. 17. (Mimeographed.)

The SRAP had its genesis in the discernment of what was later documented as a world-class occupational health disaster. This did not permit the time required for a structured, integrated response. It is understandable that the pressure of time would barely permit the development of the new concept bound up in the AFDE guideline. At this point the confusion attendant upon launching a risk-removal rehabilitation programme before risk areas had been delineated poisoned the atmosphere in which the programme would operate. It then turned out that the SRAP no longer dealt with removal from risk after May 1980. Thereupon, if it is viewed purely as a rehabilitation programme, the SRAP can hardly lay claim to success if it is judged by the outcome of a single fully rehabilitated and active member of the labour force. On the other hand, the SRAP did have the humane impact of compensating socio-economic disability incurred by impaired or potentially impaired workers. In this connection, the Board's Chest Disease Consultant, Dr. Stewart, made a telling observation when he testified that the mean average age of the SRAP clients was ten years older than at Elliot Lake.<sup>28</sup> The self-evidently reduced potential of older workers for rehabilitation enhanced the importance of the SRAP's compensation element.

Professor Barth documented that the Board harboured honest reservations at the time the SRAP was being devised. He cited an internal Board memorandum which notes a widely acknowledged conundrum, namely, that "... it is by no means agreed that withdrawal from exposure will stop or slow progression of asbestosis."<sup>29</sup> Did the SRAP succeed in altering the medical condition of its clients? There is likely no basis for telling, given especially the confusion over who was and who was not removed from risk. The Board has confirmed to us that an unspecified number of asbestotics admitted to the SRAP did progress from their initial 10% disability rating, testifying to the intractable nature of this disease. More poignantly yet, the shadows of the disaster that generated the SRAP continue to lengthen: of the 83 individuals recognized for SRAP purposes as asbestotic or AFDE, 14 have died, 9 of them of causes deemed by the Board to be asbestos-related.<sup>30</sup>

Whatever else may be said about the SRAP, it offers anything but a firm base from which to assess the advisability of removal-rehabilitation programmes. On the other hand, certain elements of the SRAP, notably the AFDE guideline, may be a relevant legacy. Let us probe this in the context of the removal and rehabilitation features of the Regulation Respecting Asbestos.

<sup>28</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, p. 106.

<sup>29</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, p. 8.4.

<sup>30</sup>Letter from Mr. Andy Emmink, Assistant Secretary, Workers' Compensation Board to the Royal Commission on Asbestos, 7 March 1983.



## A.2 The Regulation Respecting Asbestos

The provisions of the Regulation Respecting Asbestos which envisage the possible removal and rehabilitation of workers who have been exposed to asbestos are found in the Code for Medical Surveillance, which is appended to the Regulation, and in section 16 of the Regulation. The relevant provision in the Code states:

If the examining physician determines that signs of asbestos-induced disease are present the worker shall not be removed from asbestos exposure before consultation with the senior chest disease consultant of the Ministry of Labour and a rehabilitation officer of the Workmen's Compensation Board (WCB). To qualify for compensation or rehabilitation further assessment by the WCB will be necessary. If asbestos-induced disease is confirmed the physician shall then determine whether the worker is fit, fit with limitations or unfit and take action in accordance with Section 16 of the Asbestos Regulation.<sup>31</sup>

Before addressing section 16, we take due note that the above provision appears in the Code in response to concerns expressed to the Ministry of Labour by the Workers' Compensation Board. Dr. Stewart testified before us that an initial draft of the Regulation seemingly gave the examining physician the right to remove the worker on the basis of his own assessment; the worker might then end up with no compensation if the Board disagreed with the physician's act. By involving the Board, the Code appears to cover this eventuality.<sup>32</sup>

At this juncture, the relevant provisions of section 16 state that:

- (1) [The examining physician] shall advise the employer, who shall act thereon, and the worker whether the worker is fit or because of a condition resulting from exposure to asbestos is fit with limitations or unfit, to work in an asbestos exposure . . . .
- (2) Where a worker is removed from exposure to asbestos because a physical examination or clinical test discloses that the worker *may have or has* a condition resulting from exposure to asbestos *and suffers a loss of earnings occasioned thereby*, the worker is entitled to *compensation for the loss* in the manner

<sup>31</sup>Code for Medical Surveillance of Asbestos Exposed Workers, s. 4(3), in Regulation Respecting Asbestos, O. Reg. 570/82, made under the *Occupational Health and Safety Act*, R.S.O. 1980, c. 321.

<sup>32</sup>RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, p. 176.

and to the extent provided by the *Workmen's Compensation Act*. (Emphasis added.)<sup>33</sup>

We attach importance to the words we have emphasized because we can only interpret them as enshrining the basic thrust of the Special Rehabilitation Assistance Programme in the Regulation Respecting Asbestos. In particular, we note the following. First, the reference to a worker who *may have* or *has* an asbestos-related condition plainly envisages, in addition to asbestos-related disease, a definable condition of pre-asbestosis. Second, the references to compensation for loss of earnings occasioned by removal envisage with equal clarity a Board programme which, as distinct from any partial impairment/disability pension arising from asbestos-related disease, provides benefits similar to those of the SRAP for individuals removed from risk.

These points being duly noted, we feel called upon to make a number of observations. The Regulation applies to all asbestos-related establishments, not to a single plant. In this sense, it has another element in common with the SRAP in that this programme, at least in principle, was not intended exclusively for Johns-Manville workers.<sup>34</sup> The fact remains, however, that the SRAP was developed and applied solely in the context of the Johns-Manville situation. In particular, as Dr. Stewart testified before us, the AFDE guideline was devised from an examination of serial films of Johns-Manville employees. The guideline's x-ray description criteria, accordingly, "... cannot be interpreted as ... representing asbestos changes that might occur in other industries ..."<sup>35</sup> It follows that the Regulation, envisaging as it does a condition of pre-asbestosis, will find in the AFDE guideline what is at best a weak reed to lean upon: the guideline is derived from x-ray films of workers exposed in the course of a particular asbestos-using industrial process.

There is next the matter of removing the worker from asbestos exposure. From what exposure and to where? With respect to what exposure, the Regulation is silent on the question of whether removal is to be to no occupational exposure or to a relatively lower occupational exposure. As was pointed out earlier in this chapter, both the Elliot Lake programme and the SRAP accepted removal to lower exposure alternatives. It may be that the Regulation wishes to leave the question of what exposure to the Workers' Compensation Board, whose consultation in the matter of removal is mandated by the Code. But there is also section 16(5) of the Regulation, pursuant to which the examining physician's finding that a

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<sup>33</sup> Regulation Respecting Asbestos, s. 16.

<sup>34</sup> RCA Transcript, Evidence of Dr. William J. McCracken, 20 July 1982, Volume no. 53, p. 119.

<sup>35</sup> RCA Transcript, Evidence of Dr. Charles Stewart, 15 July 1982, Volume no. 50, p. 121.

worker "... is fit with limitations or is unfit for work in an asbestos exposure. . ." shall be communicated to the Chief Physician, Occupational Health Medical Service of the Ministry. More likely, then, the matter of what exposure is being left to joint determination by Ministry and Board officials. The fact remains that the Regulation is silent on a matter of policy that is ripe with controversy: whether a worker is to be moved to relatively lower exposure or to no exposure. Closely connected is the question of where the worker is to be removed. The late delineation of risk areas from non-risk areas in the Johns-Manville plant haunted the SRAP. A Regulation written for the entire asbestos-related industry can hardly be expected to pinpoint risk areas in plants, but a Regulation that is silent on the matter of designation invites future repetitions of the SRAP experience.

Is the removal of a worker who is "fit with limitations or unfit, to work in an asbestos exposure" voluntary or compulsory? On this crucial question, the Regulation is mute. For that matter, the Regulation does not tell us the relationship between being a worker who "may have or has a condition resulting from exposure to asbestos" and being "fit with limitations or unfit." The SRAP, to its credit, was a voluntary programme. As we have seen, 12 workers refused to enter it. Individual workers may have any of a number of entirely valid reasons for refusing removal and rehabilitation. Reflecting upon these, the Executive Director of the Board's Claims Services Division pointed out in testimony that employees whose seniority represents a major investment in company benefits may well be loath to consider the uncertainties of retraining and/or alternative employment, particularly when the possibility that removal has beneficial health effects is speculative.<sup>36</sup> It may be that the Regulation looks to the Board to protect the choice of workers. Nonetheless, we view the absence of an explicitly recognized right of workers to refuse removal and rehabilitation as an omission that cannot be condoned. Altogether, to borrow the expression used by Professor Barth in another context, we consider that the sections of the Regulation Respecting Asbestos which deal with removal and rehabilitation could well serve as a lesson in public administration courses on how not to draft regulatory instruments.

What is to be done in the matter of removal and rehabilitation for asbestos workers? The essential starting point, in our view, lies in the health evidence we have presented earlier in this Report. Cumulative exposures which, for the longest-term employees in friction plants, are unlikely to exceed 25 fibres per cubic centimetre-years (f/cc-yrs), should make asbestosis an extinct disease. It follows that removal and rehabilitation are irrelevant to workers who have become employed since asbestos became a designated substance, at least if asbestosis is the disease whose control is envisaged by these steps. For such workers, the disease that continues to be a

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<sup>36</sup>RCA Transcript, Evidence of Mr. John F. McDonald, 13 July 1982, Volume no. 48, pp. 149-151.



source of concern is cancer. But the multiple causes of this disease make removal for any purpose other than medical treatment questionable in the extreme.

The potential clientele for removal and rehabilitation programmes is therefore narrowed, in the case of asbestos, to those workers whose employment history takes them back to the high exposures of the 1960s and, to a lesser extent, the 1970s. It is this employee population which, unhappily, will be the source of the future cases of asbestosis in Ontario. For them, however, the question remains whether any beneficial medical results are to be expected of removal from further exposure. The exposure levels from which such workers would be removed, when measured in relation to their working life exposure dose, are trivial. Not least for this reason, we emphasize that it is essential to vest an explicit right to refuse removal in every asbestos-related worker. Nor should it be left to an examining physician, however named for purposes of surveillance, to advise the employer, or anyone else, that a worker is "fit with limitations or unfit, to work in an asbestos exposure." (See Chapter 8.) In our view, the duty of the examining physician should be simply to assess whether a worker "may have or has a condition resulting from exposure to asbestos" and to report thereon to the worker and to the Workers' Compensation Board.

We consider that the Board, upon receiving such an assessment, should thereupon set up a claim for the worker involved. Both to protect the employee, and to guard against the perception that examining physicians may be beholden to employers, we consider that the responsibility of informing employers should be vested in the Board. This will follow from the act of setting up a claim. More importantly, however, the setting up of a claim will permit, subject to all the safeguards of the appeals procedure, a diagnosis under the auspices of the Board's Advisory Committee on Occupational Chest Diseases (AC OCD).

In our view, the finding of an examining physician that an individual "may have or has" an asbestos-related condition fully warrants the attention of the AC OCD. We say this not only because such a finding signals that a diagnosis of asbestosis is possible but because of the existence, thanks to the Board's initiative, of the AFDE guideline. We fully recognize that this guideline is the product of a plant-specific programme and appreciate its several limitations as presented to us in testimony. The guideline is nonetheless a contribution to the earlier detection of lung fibrosis. Degrees of lung fibrosis are part of a continuum. As diagnostic procedures improve, it may be possible to detect fibrosis sooner, and the time at which a diagnosis of asbestosis is made may change. It is, therefore, highly appropriate that the AC OCD should have the opportunity to assess dust effect cases reported to the Board by examining physicians. In this connection, the Board should take steps to ensure that all examining physicians under the Regulation Respecting Asbestos are familiar with the terms of the AFDE

guideline, the manner in which it was developed, and its limitations. This will make its own contribution to the common education of examining physicians who survey the health of asbestos workers.

We have outlined what we consider to be fair and orderly procedures for determining what individuals, among continuing workers who have encountered historical levels of asbestos dust exposure, might have asbestosis or show signs of dust effects. The question of whether such workers should be offered removal and rehabilitation remains. We continue to be mindful that removal will be from levels of exposure that are very low. Nonetheless, we are not inclined to cancel what the Regulation offers, not least because we are sensitive to the anxiety that disease labelling can produce in individuals. Ample though the medical uncertainty on the effects of removal may be, we believe that this option should be available on a case-by-case basis, subject to a strict right of worker refusal and to a right of appeal when removal is not made available as an option, to workers with asbestosis or signs of dust effects.

In exercising their right to accept or refuse an offer of removal, workers are entitled to know *to what level* of exposure they will be removed. We have pointed out that the silence of the Regulation on this matter invites repetition of one of the most controversial and damaging facets of the SRAP experience. In our view, the key to avoiding such repetition lies in the low exposure levels mandated by the Regulation. These are sufficiently low that they make the matter of removal to relatively lower as distinct from no occupational exposure an irrelevant question. What is relevant, in our judgement, is that section 7(1) of the Regulation specifies that an asbestos control programme shall be in effect wherever an assessment discloses “. . . that a worker is likely to inhale or ingest asbestos and that the health of the worker may be affected thereby. . . .” It follows that the removal of a worker should be to a position where, either with the same or another employer, an asbestos control programme does not apply. The Regulation should so stipulate.

With respect to the rehabilitation of removed workers, the SRAP experience gives us reason to contain our expectations, given especially the relatively older age of the workers likely to be involved. The SRAP turned out to be more a programme to compensate the socio-economic disability of medically impaired or potentially impaired workers than a successful rehabilitation initiative. As such, however, the SRAP offers a telling reminder of the desirability of compensating for socio-economic disability. In Chapter 13 we pointed out that the many ramifications of a dual system that seeks to compensate separately medical impairment and socio-economic disability are too vast, given our terms of reference and the limited submissions we have received on the subject, to permit us to formulate a judgement on the desirability of such a system. We can say, however, that the SRAP experience is testimony to some attractive features of a dual ap-

proach to compensation. Especially among older workers, needs arising from socio-economic disability can often be greater than the pensions that a mixed impairment/disability scheme of compensation permits.

We deliberate in a context in which it is by no means clear whether Ontario might adopt a dual compensation system and, if so, under what rules. In such a context, rehabilitation programmes have a place if only to continue to offer to certain asbestos-related workers a measure of income maintenance geared to their socio-economic circumstances. Once, with the passage of time, the number of asbestos workers whose employment dates back to the 1960s and 1970s has dwindled, the Workers' Compensation Board should review the matter of rehabilitation with the assistance of the Advisory Council on Industrial Disease Policy, whose creation we recommend in Chapter 12. We suggest that the time to launch such a review should be not less than ten years from now.

In light of the above considerations, we recommend that:

*14.1 The sections of the Regulation Respecting Asbestos and the portions of its Code for Medical Surveillance which deal with the removal and rehabilitation of asbestos workers should be thoroughly revised so as to:*

- (i) remove from examining physicians any role in determining whether asbestos workers are fit, fit with limitations, or unfit to work in an asbestos exposure;*
- (ii) direct examining physicians to inform the worker and the Workers' Compensation Board of any finding that a worker may have or has a condition resulting from exposure to asbestos;*
- (iii) vest an unequivocal right to refuse removal in the individual worker; and*
- (iv) specify that removal entails moving the worker to a position where an asbestos control programme mandated by the Regulation does not apply.*

We further recommend that:

*14.2 The Workers' Compensation Board should:*

- (i) take steps to ensure that all examining physicians under the Regulation Respecting Asbestos are familiar with the terms of the Asbestos Fibre Dust Effect guideline, the manner in which it was developed, and its limitations;*
- (ii) automatically set up a claim for any worker who, according to the finding of an examining physician, may have or has a condition resulting from exposure to asbestos;*



- (iii) *refer every such claim to the Advisory Committee on Occupational Chest Diseases (AC OCD);*
- (iv) *offer the option of removal and rehabilitation to workers who are confirmed, either by the AC OCD or upon appeal, as exhibiting asbestosis or dust effects; and*
- (v) *review, in not less than ten years, and with the assistance of the Advisory Council on Industrial Disease Policy, the continuing appropriateness of offering removal and rehabilitation to asbestos workers.*

## B. Outreach

The long latency of asbestos-related conditions means that there will be a flow of compensable disease occasioned by past workplace exposures for at least the balance of this century. The size of this flow can be approximated, but under assumptions that are sufficiently tenuous to mean that any number amounts to no more than an educated guess. The actual outcome will only be revealed over time. We shall begin by addressing the matter of numbers. Whatever the flow of future disease from past exposure, it is incumbent in equity to ensure that as many cases as possible will be identified for compensation purposes. The Workers' Compensation Board, to its credit, has been conscious of the importance of identifying cases that are potentially compensable, and we shall review the Board's efforts in this regard. We shall then prescribe additional measures designed to strengthen the Board's efforts in the domain of outreach.

### B.1 Future Disease from Past Workplace Exposure

There will be continuing disease resulting from past exposure of workers to asbestos during the 1940s, the 1950s, the 1960s, and the 1970s. This disease and death may not yet have reached its peak, and it may continue into the next century. Because asbestos fibre levels to which workers were exposed dropped substantially during the 1960s and especially the 1970s, we can expect that the incidence of asbestosis will decline first, followed by declines in the incidence of lung cancer and mesothelioma. It is difficult to predict how much disease will result in Ontario from past exposures. We are aware of three studies which have usefully attempted to

forecast future disease resulting from past exposure to asbestos in the United States.<sup>37</sup>

Julian Peto, Henderson, and Pike have estimated that in the United States, exposure of workers to asbestos before 1965 will ultimately cause about 37,500 mesothelioma deaths and 112,500 lung cancer deaths, most of which (perhaps three-quarters) have yet to occur.<sup>38</sup> For their part, Nicholson et al. have estimated that total cancer deaths from past occupational exposure to asbestos in the United States will range from 8,700 per year in 1982 to almost 10,000 per year by 1990, and thereafter about 9,000 per year to the turn of the century, declining thereafter.<sup>39</sup> Meantime, Doll and Richard Peto have estimated that in the United States in 1978, perhaps 5% of lung cancer was attributable to occupational asbestos exposure, and that this exposure may account for between 1 and 2% of total cancer deaths, that is, for a range of 4,000 to 8,000 deaths per year.<sup>40</sup>

With the warning that the exercise should not provoke delusions of precision, it is a simple matter to apply the Doll and Peto percentages to Ontario. In this province, in 1980, there were 3,280 deaths from lung cancer and 14,451 deaths from all cancers. Accordingly, 5% of 3,280, or 164 lung cancer deaths could be attributed to occupational asbestos exposure; alternatively, 1 to 2% of 14,451, or a range of 145 to 290 Ontario deaths per year from all cancers might be attributed to this exposure. Such an attribution involves the assumption that in Ontario a similar proportion of the population experienced an occupational exposure to asbestos similar to that in the United States. In fact, however, it appears that a substantially lower

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<sup>37</sup>A fourth study of which we are aware is "Estimates of the Fraction of Cancer in the United States Related to Occupational Factors," prepared by the National Cancer Institute, the National Institute of Environmental Health Sciences, and the National Institute for Occupational Safety and Health, Washington, D.C., 15 September 1978. This widely publicized study, commonly referred to as the "Estimates Paper," has been thoroughly discredited by responsible critics and therefore requires no comment from us. This study estimated that 23 to 38% of future cancer in the U.S. would be attributable to occupational exposure to just six known carcinogens, asbestos being one. It has been particularly well analyzed by Richard Doll and Richard Peto in "The Causes of Cancer: Quantitative Estimates of Avoidable Risk of Cancer in the United States Today," *Journal of the National Cancer Institute (JNCI)* 66:6 (June 1981): 1240-1241, 1304-1308. Doll and Peto rejected the "Estimates Paper" as having overestimated the fraction of occupationally induced cancer by perhaps a factor of 10 and indicated that the paper has found no support in the research community.

<sup>38</sup>Julian Peto, Brian E. Henderson, and Malcolm C. Pike, "Trends in Mesothelioma Incidence in the United States and the Forecast Epidemic Due to Asbestos Exposure During World War II," in *Banbury Report 9: Quantification of Occupational Cancer*, eds. Richard Peto and Marvin Schneiderman ([Cold Spring Harbor, New York]: Cold Spring Harbor Laboratory, 1981), pp. 51-72.

<sup>39</sup>William J. Nicholson et al., "Cancer from Occupational Asbestos Exposure: Projections 1980-2000," in *Banbury Report 9: Quantification of Occupational Cancer*, pp. 87-111.

<sup>40</sup>Doll and Peto, "The Causes of Cancer: Quantitative Estimates of Avoidable Risk of Cancer in the United States Today," pp. 1242-1245.

proportion of the Ontario population has experienced occupational asbestos exposure than has been the case in the United States. In shipbuilding and manufacturing, this proportion is less than half that of the United States.<sup>41</sup> Therefore, it is likely an overestimate to attribute a range of 145 to 290 cancer deaths per year in Ontario to asbestos.

But let us suppose that an estimated range that is half of this level is more realistic: 75 to 145 deaths per year from all cancers could be attributable to occupational exposure to asbestos in Ontario. The Ontario Workers' Compensation Board has reported that it allowed 20 asbestos-related cancer claims (including mesotheliomas) in 1980. Even the low end of the range of 75 to 145 is almost 4 times higher than the 20 claims compensated by the Board in 1980. Attempting to estimate present or future deaths from past occupational exposure to asbestos may amount to no more than educated guessing, but it strongly suggests that deaths, which by law are compensable, are going uncompensated.<sup>42</sup> Outreach measures are therefore necessary and important.

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<sup>41</sup> The study by Nicholson et al. (see note 39, *supra*) reported in its Table 3 that there were 4.5 million new shipyard workers in the U.S. during the 1940s, most of them employed during the war years. Assuming a 100% annual turnover rate as was observed in the U.S., the comparable number of entrants into Ontario shipbuilding would have been 40,000 workers. (See Chapter 6, Table 6.13 of this Report.) This is 0.9% of the U.S. figure. Given an Ontario labour force that is 4% as large as the U.S. labour force, the proportion of Ontario workers potentially exposed to asbestos in shipbuilding was less than one-quarter of the U.S. proportion for the 1940s. The U.S. experienced a much larger war-time shipbuilding boom than Ontario. In the post-war decades of the 1950s and 1960s, Ontario employment in shipbuilding ranged between 1 and 2% of the U.S. figure, so that the proportion of Ontario workers in shipbuilding during these decades was one-quarter to one-half that in the U.S.

In manufacturing of asbestos products, Statistics Canada data show that the number of Ontario workers during the 1950s and 1960s averaged around 2,000, which is less than 2% of the number of U.S. asbestos manufacturing workers reported by Nicholson et al. in their Table 4. The proportion of Ontario workers in asbestos manufacturing thus appears to be less than half that in the U.S.

<sup>42</sup> We are aware of an article, four of whose authors are Board physicians, which has argued that the number of claims compensated by the Board might actually reflect the true incidence of occupationally induced cancer in Ontario. This is not an epidemiological study but an argument that runs as follows: A compensation agency might, despite an outreach programme, have missed some occupationally induced cancers. However, that same compensation agency's policy of benefit of doubt, coupled with its practice of ignoring smoking habits, may mean that the number of claims actually compensated overestimates the true occupational incidence of the deaths involved. This overestimate thus cancels whatever shortfall arises from the claims missed by outreach measures. We choose not to comment on this sophistry, but observe that it is no excuse for failure to pursue outreach measures vigorously. The article to which we refer is Alan C. Chovil, William J. McCracken, Emerson C. Dowd, Charles Stewart, Dorothy F. Burton, and Douglas W. Dyer, "Occupational Cancer: Experience in Ontario," *Canadian Medical Association Journal* 125 (1 December 1981): 1237-1241.



## B.2 The Board's Outreach Measures

In the matter of the Board's outreach role, Professor Barth testified that "... many [compensation] agencies either feel they don't have the resources or it's beyond their responsibility. That was not the case here in Ontario, and I think the WCB is to be praised for that."<sup>43</sup> Specifically in the realm of asbestos, the Corporate Board established an outreach programme on October 12, 1976.<sup>44</sup> The occasion was the Corporate Board's approval of the guideline covering gastrointestinal cancer in relation to asbestos exposure, but the outreach programme was intended to seek out victims of any asbestos-related disease with the exception of asbestosis. This exception, it was explained to us, was made on the assumption that the Chest Surveillance Programme of the Ministry of Labour would have identified the victims of this disease.<sup>45</sup>

As an initial step in the outreach programme, the Executive Director of the Board's Medical Services (then Rehabilitation Services) Division, Dr. William J. McCracken, addressed a letter to all the practising physicians in Ontario. This letter mentioned the latency of asbestos-related diseases, referred to the Board's guidelines, asked physicians "... to build a suspicion index into [their] history taking. . ." by inquiring into their patients' past occupations, and invited them to notify the Board of any cases whose nature suggested that a claim might be initiated.<sup>46</sup> One can wonder about how many busy practitioners actively read an evidently duplicated letter beginning with the salutation "Dear Doctor," but the attempt to alert the medical community in general was nonetheless genuine.

At a more robust and time-consuming level, the outreach programme generated a team consisting of the Board's Chest Disease Specialist, Dr. Douglas W. Dyer, and a representative of the Industrial Diseases and Dependants Section of the Claims Adjudication Branch. The team visited 32 companies which were deemed particularly likely to have had significant asbestos operations. In Dr. Dyer's words:

When we would visit a company, we would speak to one of the senior officials, plant manager, member of personnel, and have a general discussion about the problems of asbestos-related disease, with particular interest to the malignancies. We would present to them copies of the guidelines and ask if they would search their personnel files to determine whether or not any

<sup>43</sup>RCA Transcript, Evidence of Professor Peter S. Barth, 24 August 1982, Volume no. 57, p. 91.

<sup>44</sup>RCA Transcript, Evidence of Dr. Douglas W. Dyer, 16 July 1982, Volume no. 51, p. 91.

<sup>45</sup>Ibid., p. 107.

<sup>46</sup>The Workmen's Compensation Board, Ontario, Written submission to the Royal Commission on Asbestos, #69, 15 June 1981, Appendix 8.

members of the organization, or past members of the organization, had evidence of having had any of the three diseases, or died from any of the three diseases.<sup>47</sup>

The three diseases to which Dr. Dyer referred were mesothelioma, lung cancer, and gastrointestinal cancer. After the Board, part-way through the programme of company visits, approved its guideline for laryngeal cancer in 1978, this disease was added to the interviewing team's list of requests.<sup>48</sup> According to Dr. Dyer's testimony, initial opposition from certain companies, notably Raybestos-Manhattan, was overcome, and most provided information.<sup>49</sup> Organized labour was made aware of the company visits, first through a Board letter to the Ontario Federation of Labour and subsequently through contacts with any individual unions identified in the course of the company interviews.<sup>50</sup>

Information conveyed to the Board concerning persons possibly afflicted with the diseases of interest was handled by the Claims Adjudication Branch. A claims adjudicator would try to establish a confirmation of the cause of death through the Registrar General. The Board would then try to contact the next of kin, asking if they wished to have a claim initiated. Although the number of contacts that were made is unknown, the Board through this procedure had set up, by July of 1980, 22 claims.<sup>51</sup> None of these involved mesothelioma.<sup>52</sup> It was while the outreach programme was underway, but as a distinct initiative, that the Board carried out the detective work which led to the compensation of the mesotheliomas which had afflicted the war-time gas mask workers in Ottawa.<sup>53</sup>

The gas mask episode sensitized the Board to the possibility of asbestos-related disease in other war-time industries. Accordingly, the outreach programme in 1979 and 1980 acquired a specific focus on the ship-building activity of the war years.<sup>54</sup> During the war, numerous corvettes and mine sweepers were constructed in Ontario, asbestos being applied to these vessels as a fire retardant and insulator. Some 400 mine sweepers were built in Toronto at the foot of Spadina Avenue, but here the outreach programme was frustrated by the fact that none of the companies involved remained in business. In the result, the programme was limited to team

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<sup>47</sup>RCA Transcript, Evidence of Dr. Douglas W. Dyer, 16 July 1982, Volume no. 51, p. 92.

<sup>48</sup>*Ibid.*, p. 101.

<sup>49</sup>*Ibid.*, pp. 95-96.

<sup>50</sup>*Ibid.*, pp. 93-94.

<sup>51</sup>*Ibid.*, p. 96.

<sup>52</sup>*Ibid.*, p. 101.

<sup>53</sup>The Ottawa gas mask workers were the subject of an epidemiological study by Dr. Alison D. McDonald, whose findings are reviewed by us in Chapter 5. The Board's attempts to identify individual gas mask workers for compensation purposes succeeded in the allowance of three mesothelioma claims. See RCA Transcript, Evidence of Dr. Douglas W. Dyer, 16 July 1982, Volume no. 51, pp. 108-119.

<sup>54</sup>*Ibid.*, p. 102. See also, Barth, *Workers' Compensation and Asbestos in Ontario*, p. 7.4.

interviews with Collingwood Shipyards, which built warships in Collingwood and Thunder Bay, and with Port Weller Shipyards.<sup>55</sup> The 22 claims set up by the Board as a result of the outreach programme by July 1980 included the outcome of its venture into war-time shipbuilding. Of these 22 claims, 2 were ultimately granted by the Board, one was withdrawn, and 19 were denied.<sup>56</sup> We pursued the relatively large number of denials at our hearings. It is apparent that the Board had sought, and received, information on any workers who had contracted the diseases of interest, however briefly they might have been employed. Accordingly, the 19 denied claimants included some very short-term employees, the duration of whose exposure to asbestos would have fallen well short of those specified by the Board's guidelines. This affords at least one explanation for the volume of denials.<sup>57</sup>

### B.3 Improving Outreach Efforts

What is the index of success for an outreach programme? An obvious — and ghoulish — index is the toll of industrial disease and death uncovered. According to this index, a large “body count” permits an outreach programme to be deemed a “success”; a low count spells the verdict “failure.” We instinctively recoil from using this index. Ideally, the most successful outreach programme would be one that simultaneously gave cause to be satisfied that occupationally induced disease and mortality were not going uncompensated and that unearthed what in fact was a minimum toll of suffering and sorrow.

The outreach efforts exerted by the Board between October 1976 and July 1980 yielded, as we have seen, 2 compensated claims for asbestos-induced disease. In our view, this statistic permits neither a judgement of success nor one of failure. We appreciate what the Board's outreach programme has been trying to achieve and note with approval that the Board does not consider that its efforts have reached an end. According to Dr. Dyer's testimony, the Board, in the summer of 1982, was updating its list of asbestos-using manufacturing companies with a view to arranging further team interviews.<sup>58</sup> Outside the domain of manufacturing, we note with Professor Barth that the Board's team interviews have not sought out employers of workers who are users of asbestos-containing manufactured products (e.g., auto mechanics) or of workers involved in building maintenance or demolition. We also share Professor Barth's caution that such workers are “. . . likely to be employed in many small, decentralized establishments rendering any outreach programme costly and slow.”<sup>59</sup> We direct

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<sup>55</sup>RCA Transcript, Evidence of Dr. Douglas W. Dyer, 16 July 1982, Volume no. 51, pp. 102–103.

<sup>56</sup>Ibid., p. 96.

<sup>57</sup>Ibid., pp. 99–100.

<sup>58</sup>Ibid., p. 104.

<sup>59</sup>Barth, *Workers' Compensation and Asbestos in Ontario*, p. 7.7.



attention, however, to the fact that significant concentrations of brake mechanics, as indicated in Chapter 6 of this Report, have been employed in large automotive shops in operations that involve a substantial volume of bevelling and grinding. Such large shops can be a readily feasible subject for outreach measures.

What is to be done? We are not aware of outreach measures taken elsewhere that compare favourably with the Board's own programme. Professor Barth observed that "... a very major publicity effort in the latter part of the 1970s by the U.S. government to identify asbestos-injured workers in federally operated shipyards is acknowledged to have met with failure or at least very little response."<sup>60</sup> If we are convinced that more vigorous outreach measures are necessary, this is because we cannot pronounce ourselves satisfied that no or even little asbestos-related disease is going uncompensated. The lowest end of the range of educated guesses on the numerical size of asbestos-induced occupational disease is too many times the number of compensated Board cases to be anything but disturbing. It is likely true that no occupational carcinogen has been more widely publicized than asbestos; asbestos should therefore be a relatively "easy" subject for outreach measures.

The initial consideration we wish to address stems from the added publicity which the existence of this Commission gave to asbestos; it points to the need for outreach measures which are not left solely to the Workers' Compensation Board but involve the co-ordinated joint efforts of the Board and the Ministry of Labour. On the occasion of one of our informal hearings, open to any person giving notice of a desire to speak, we received Mr. Floyd Lefebvre of Cornwall, Ontario, a former employee of Domtar Construction Materials Limited in that city.<sup>61</sup> Mr. Lefebvre spoke to us about his own respiratory problems and of his status as an unsuccessful Board claimant who, although granted an appeal hearing, decided not to pursue the matter because of his health. More generally, Mr. Lefebvre spoke of the use of asbestos in the Domtar plant, where he had begun employment in 1951, and of the fact that he and his fellow workers were periodically examined by the mobile x-ray unit of the Chest Surveillance Programme in the 1950s and 1960s. He had compiled a list of names of fellow employees, including some who had died prior to retirement age, all of whom he believed would appear on mobile x-ray unit reports. Mr. Lefebvre submitted all these names to us.

We followed up Mr. Lefebvre's submission with staff enquiries to the Workers' Compensation Board and the Ministry of Labour. The Board confirmed that Domtar Construction Materials had been visited by an out-

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<sup>60</sup>Ibid., p. 7.8.

<sup>61</sup>RCA Transcript, Submission by Mr. Floyd Lefebvre, 5 July 1982, Volume no. 47(B), pp. 142-153.

reach team in July 1978. It could identify only 2 asbestos-related claims from employees of Domtar, one of them Mr. Lefebvre's and neither of them successful.<sup>62</sup> By date of March 18, 1983, we received from the Ministry of Labour a letter which reported its own pursuit of our enquiry in the following words:

An official of the Occupational Health Branch met with the Manager of Occupational Health and Hygiene of Domtar to review the company personnel records for the persons listed by Mr. Lefebvre in his testimony before the Commission. The Ministry has found that several workers on the list have died and some of the deaths were attributed to various cancers. There were three cancers of the lung, one case of mesothelioma and one case of cancer of the bowels.

Since this discovery, I understand that the employer has decided to submit workers' compensation claims for those workers with causes of death which could be attributable to exposure from asbestos. In addition, the Ministry itself will conduct a study of the mortality experience of the exposed population at Domtar. As a result, there may be other cases which could lead to compensation claims being filed with the Workers' Compensation Board at some future date.<sup>63</sup>

These words speak for themselves. The publicized existence of this Commission led a former asbestos worker to make an appearance which triggered a meaningful if limited outreach effort. What we take from this episode to be particularly telling is the pointed demonstration of the capability of the Ministry of Labour to contribute to outreach measures. The Ministry's files offer a rich source of information, covering several decades, on asbestos-using processes in many Ontario establishments. The mobile x-ray unit reports of the Ministry's Chest Surveillance Programme contain thousands of employee names. Clearly, the Ministry of Labour is equipped to play the role of a full participant in outreach efforts. It in no way belittles the officials who were involved to say that employer interviewing teams composed of a Board physician and a representative of the Board's Claims Adjudication Branch are painfully shorthanded. Ministry of Labour officials with Ministry information at their fingertips are necessary members of such teams. Interviews aside, we consider the Ministry essential to the success of new outreach initiatives, which we shall address below.

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<sup>62</sup>Letter from Mr. Andy Emmink, Assistant Secretary, Workers' Compensation Board to the Royal Commission on Asbestos, 7 January 1983.

<sup>63</sup>Letter from Mr. Arthur L. Gladstone, Senior Policy Advisor, Occupational Health and Safety Division, Ontario Ministry of Labour to the Royal Commission on Asbestos, 18 March 1983.

In our view, the logical starting point is to stipulate a new and joint Ministry-Board responsibility for outreach measures in formal terms. We have been informed by the Ministry of Labour of a Memorandum of Understanding, dated May 14, 1982, between the Minister of Labour and the Chairman of the Workers' Compensation Board on Ministry-Board relations.<sup>64</sup> This document states that the Memorandum, "... as amended from time to time, is the formal description of their relationship."<sup>65</sup> We consider it most advisable that the Memorandum of Understanding should be amended to give effect to a joint Ministry-Board responsibility for the development and implementation of outreach measures designed to promote the identification of potential claims for industrial disease compensation. We therefore recommend that:

***14.3 The Memorandum of Understanding which constitutes the formal description of the operating relationship between the Ministry of Labour and the Workers' Compensation Board should be amended to recognize a joint Ministry-Board responsibility for the development and implementation of outreach measures designed to promote the identification of potential claims for industrial disease compensation.***

We anticipate that pursuant to this undertaking, an invigorated set of employer interviews would be pursued and contact with unions expanded. In the exercise of the Ministry-Board responsibility for outreach, discrete efforts might be made to ask the members of management and labour to be alert to causes of disease and death among past employees who may be known to them. Beyond this, let us address some new outreach measures which look to future rather than past disease and death. Here, an important focus should be to infuse the individual patient-physician relationship with information.

Let us consider the thousands of asbestos-exposed workers who have been examined by the Chest Surveillance Programme. Dr. Peter L. Pelmeur, Director of the Occupational Health Branch of the Ministry of Labour, testified that the number of asbestos workers examined dropped precipitously between 1980 and 1982, from approximately 14,000 to 8,000.<sup>66</sup> This is consistent with the secular and cyclical trends currently affecting asbestos-using industry. From the standpoint of outreach, however, it underlines the growing magnitude of a long-standing problem: the number of ex-employees who, once they leave asbestos-using plants, are no longer covered by the Chest Surveillance Programme and, as of 1982, by the medical surveillance

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<sup>64</sup> "Memorandum of Understanding Between the Minister of Labour and the Chairman of the Workmen's Compensation Board," 14 May 1982, appended to letter from Mr. Arthur L. Gladstone, Senior Policy Advisor, Occupational Health and Safety Division, Ontario Ministry of Labour to the Royal Commission on Asbestos, 7 January 1983.

<sup>65</sup> *Ibid.*, p. 1.

<sup>66</sup> RCA Transcript, Evidence of Dr. Peter L. Pelmeur, 21 June 1982, Volume no. 42(B), p. 7.



measures prescribed in the Regulation Respecting Asbestos. Among asbestos employers, Dr. Pelmeur testified, only Johns-Manville has encouraged ex-workers to attend the Ministry's mobile x-ray units when they are in the plant.<sup>67</sup> This is not to say that ex-workers of other plants would not be examined if they appeared at their old plant when the mobile x-ray units were present; it means, however, that no effort is made to notify former employees of a mobile unit visit. There is an exception outside the domain of fixed place industry: since the 1960s, the mobile x-ray units have regularly visited the union halls of Locals 58 and 95 of the International Association of Heat and Frost Insulators and Asbestos Workers, with a response rate estimated by Dr. Pelmeur to be between 40 and 60%.<sup>68</sup> A possibility which is open to any ex-asbestos worker is simply to visit the Ministry's central Medical Service Chest Clinic facilities at 880 Bay Street in Toronto, where an examination would be given upon request. (This Clinic was formerly called the Chest Diseases Clinic and was located at 50 Grosvenor Street in Toronto.) Self-evidently, the remoteness of this possibility grows with the distance of an ex-employee's residence from Toronto.

Both because the historical locations of asbestos-related firms span the province from east to west and north to south, and because the mobility of individuals is unlimited, workers who acquired occupational exposure to asbestos in Ontario may be anywhere. At our hearings, we probed the possibility that ex-workers might be subject to misdiagnosis. With respect to mesothelioma, Dr. Alexander C. Ritchie, Professor of Pathology at the University of Toronto, testified that physicians training at the Toronto General Hospital would see mesotheliomas because these cases are referred to him by the Board. If those were subtracted, he doubted that even the Toronto General would get more than one mesothelioma in four years.<sup>69</sup> It follows that even physicians who have received specialty training at a major centre are unlikely ever to have encountered this industrial disease; its identification therefore rests on a combination of well-developed general diagnostic skills and a physician's sensitivity to occupation as a source of disease. As for asbestosis, Dr. Ritchie considered that a diagnosis of non-descript chest fibrosis would be likely in many communities, especially if the patient and physician had not explicitly pursued the possibility that the patient might have been exposed to asbestos in his occupational history.<sup>70</sup>

In our view, the records of the Chest Surveillance Programme offer a logical starting point from which to build a more informed patient-physician relationship for ex-asbestos workers. We appreciate the fact that the Ministry of Labour is currently engaged in a systematic attempt to com-

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<sup>67</sup>Ibid., p. 21.

<sup>68</sup>Ibid., p. 22.

<sup>69</sup>RCA Transcript, Evidence of Dr. Alexander C. Ritchie, 14 July 1982, Volume no. 49, pp. 85-86.

<sup>70</sup>Ibid., pp. 58-59.

puterize these records and correlate them with its separate records of dust exposure in the plants in which individuals worked.<sup>71</sup> The names of the individuals involved, together with the specific plants in which they were employed, permit the launching of an intensive search through employers and unions for residential addresses. As addresses become known, a promising outreach effort can be undertaken by mailing to each individual a plastic card with an accompanying letter. The letter should invite the individual to present his card whenever he visits a physician. The card would inform the physician that the patient was once under surveillance as an asbestos worker, alert the physician to be sensitive to any symptoms that might be indicative of asbestos-related disease, and invite the physician to contact the Ministry or the Board (which of these two agencies might be contacted should have been jointly determined by the Ministry and the Board) for records of his patient or other pertinent assistance he might wish to have. Accordingly, we recommend that:

*14.4 The Ministry of Labour and the Workers' Compensation Board should attempt systematically to locate the residential addresses of all individuals who, because of previous asbestos exposure, have been examined by the mobile x-ray units of the Chest Surveillance Programme so that these individuals may be sent a card which they would be invited to present to their physicians whenever they wished. The card would inform the physician that its bearer was once under surveillance as an asbestos worker, alert the physician to be sensitive to any symptoms that might be indicative of asbestos-related disease, and invite the physician to contact the Ministry or the Board for records of his patient or other pertinent assistance.*

We do not expect that the outreach measure just prescribed will be more than partially effective. Bearing in mind that many individuals will never be located and that others, especially construction workers, were never under surveillance, there is a need to address Ontario physicians generally. This, as we have noted, the Board did by sending a letter to every practising physician in November of 1976. A more systematic attempt to alert medical practitioners by a variety of means should be developed by the Ministry and the Board in consultation with organizations like the Ontario Medical Association and the Ontario Chapter of the College of Family Physicians of Canada. The importance of taking occupational histories and of being sensitive to possibly compensable disease is such that, personal correspondence aside, these matters are eminently fit subjects for local district council meetings of practising physicians and for recurring notes and articles in professional publications. We therefore recommend that:

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<sup>71</sup>RCA Transcript, Evidence of Dr. Peter L. Pelmeur, 21 June 1982, Volume no. 42(B), pp. 8-9.

*14.5 The Ministry of Labour and the Workers' Compensation Board should systematically seek the co-operation of organizations such as the Ontario Medical Association and the Ontario Chapter of the College of Family Physicians of Canada to encourage all practising physicians to take work histories of patients whenever possible symptoms of asbestos-related disease are suspected and to inform such patients on how to initiate compensation claims. The Ministry and the Board should encourage these organizations to spread an understanding of the state of occupational medicine among physicians by all appropriate means, including local district council meetings and professional publications.*

Finally, there is the institutional role of hospitals in outreach measures. This role has yet to be exploited. It could be made a matter of hospital policy that occupational histories will be solicited when individual patients are admitted to hospital with symptoms of diseases that might be asbestos-related. The individuals most likely to be helpful in this regard are the chief executive officers of Ontario hospitals. We suggest that the Ministry and the Board should approach these officials with the co-operation of the Ontario Hospital Association. Accordingly, we recommend that:

*14.6 The Ministry of Labour and the Workers' Compensation Board, with the co-operation of the Ontario Hospital Association, should communicate to the chief executive officers of Ontario hospitals the importance of taking steps that will promote, as a matter of hospital policy, the soliciting of occupational histories from patients who are admitted to hospital with symptoms of disease that may be asbestos-related.*

We consider that the above prescriptions provide means which should enhance the effectiveness of outreach measures initiated by the Board in 1976. Whatever the means, the question of what constitutes a successful outreach programme remains. As already stated, we do not deem the numerical toll of disease and death uncovered to be an appropriate index of success or failure. Rather, the overriding criterion is the judgement that occupationally induced disease and mortality are not going uncompensated. This judgement is not easily made because it must take many factors into account — from ongoing epidemiological findings to industrial structure. And it is not a once-and-for-all judgement because it rests on learning from ongoing outreach experiences and must be open to suggestion. These considerations lead us to the view that the Advisory Council on Industrial Disease Policy, whose creation we have prescribed, is an eminently appropriate vehicle to assess periodically the effectiveness of the outreach efforts undertaken by the Ministry and the Board. This Council, with its general mandate to advise on industrial disease policy, can bring collective judgement to bear openly on the relative success of outreach measures. We therefore recommend that:



- 14.7 *The mandate of the Advisory Council on Industrial Disease Policy should include the role of monitoring the outreach efforts of the Ministry of Labour and the Workers' Compensation Board in an ongoing manner, assessing the relative success of these efforts, and advising on appropriate means of enhancing outreach.*

## C. Prevention

### C.1 Introduction

The primary purpose of any workers' compensation system is, of course, to compensate workers who have suffered occupational illness or injury. But it has long been recognized that such a system can also play a role in prevention. Thus, for example, the Ontario Workers' Compensation Board has long had a statutory role in promoting, approving, and funding accident prevention associations. (See Chapter 8.) Given the *Occupational Health and Safety Act*, primacy in accident and disease prevention is clearly accorded to the Ministry of Labour in concert with the Internal Responsibility System, but it is equally clear that the Board is expected to play a supportive role.

How can the financing of workers' compensation support the objective of accident and disease prevention? To ponder this question is to reflect not only upon prevention but upon other objectives as well, notably equity and justice. In the financing of workers' compensation, equity will require, as a general proposition, that similarly situated employers will be treated similarly. Just as the objective of prevention indicates that the financing of workers' compensation might include incentives to reduce injury and disease, the objective of equity indicates that an employer whose working conditions lead to disproportionately high claims should finance some or all of the extra compensation burden that his activities impose. Finally, justice, in the sense of retribution, is an objective that might be accommodated within a compensation system. While the appropriateness of revenge can be questioned as a social goal, the example that is set for others by retributive justice can make its own contribution to prevention.

Recent newspaper accounts of workplace tragedies have included statements by injured workers or their next of kin demanding that a penalty be imposed upon the employer, not because this would enrich the injured worker or his survivors, nor spare the other contributors to the system, but rather because the employer deserves to be punished. Testimony before this Commission has included impassioned pleas that certain employers whose places of work are the origin of considerable illness and death be made to account for the suffering that they have caused.<sup>72</sup>

<sup>72</sup>See, for example, RCA Transcript, Submissions by the Asbestos Victims of Ontario, 16 February 1981, Volume no. 1, pp. 142-190.

These objectives may be pursued within the framework of a workers' compensation system, or outside that framework. In fact, workers' compensation itself replaced a system of tort liability which served, to some extent, purposes of compensation, prevention, equity, and retribution. Workers' compensation provided workers a no-fault guaranteed degree of protection from losses due to industrial injury and disease in lieu of the common law right of these workers to sue their employers in court. The extent to which the Ontario compensation system effectively bars the exercise of common law rights is substantial and clearly greater than in the United States. In most American jurisdictions, the worker, while barred from suing his employer, may bring suit against third parties, for example, suppliers of asbestos used in the workplace. In Ontario, such third-party suits are in effect precluded because no scheduled firm, under the terms of the *Workers' Compensation Act*, may be sued, whether as the employer or as a supplier.<sup>73</sup> It is also possible in some American states, but not in Ontario, for an employee to bring suit if the conduct of the employer in exposing the employee to risks was wanton or willful. More generally, the tort system in the United States applies a standard of strict liability; in Canada the plaintiff must prove that the defendant was negligent, an added burden on the plaintiff. These differences account for the enormous volume of asbestos-related litigation in the United States and its virtual non-existence in Ontario. Have we reached a time when the compensation system should be supplemented, at least in part, by tort liability for workplace-related diseases? Are asbestos-related diseases a special case which should involve special rights for private lawsuits? After due deliberation, we have concluded that we must answer both of these questions in the negative.

Tort liability is an unattractive addition to workers' compensation because, first, it is an inefficient means of compensating victims of industrial disease. We need only look to the experience in the United States with asbestos-related lawsuits over the last decade to see how inefficient the system actually is. It has been reported that before the Manville Corporation (successor to the Johns-Manville Corporation in the United States) filed for bankruptcy in August of 1982, defence attorneys were charging the company about \$2 million per month, which amounted to more than half the \$40,000 per case average cost of disposing of claims.<sup>74</sup> If each claim cost Manville \$40,000, half of which was paid to defence lawyers, that left no more than \$20,000 to be paid to the injured worker. Many U.S. claims are brought by lawyers who are paid a contingent fee of one-third or more

<sup>73</sup>Where a third party is not a scheduled employer in Ontario, s. 8(1) of the *Workers' Compensation Act* (R.S.O. 1980, c. 539) permits an employee to elect to bring an action. In addition, a recent case held that an employee could sue an *executive officer* of the employer in certain circumstances. See *Berger v. Willowdale A.M.C. et al.* (1983), 41 O.R. (2d) 89 (Ont. C.A.).

<sup>74</sup>James S. Granelli, "The Future Claims Fight," *The National Law Journal* 5:30 (4 April 1983): 28.

of the recovery. If the plaintiff's lawyer took one-third of the \$20,000, that would leave the injured worker with \$13,300, or one-third of the amount expended by Manville on the average claim. This can be compared to the experience of the Workers' Compensation Board in Ontario where less than 9% of all revenue is paid out for administration, and there is virtually no litigation.<sup>75</sup> In fact, the contrasting costs of administering the asbestos litigation in the United States are even higher than our figures indicate, because in addition to the claims by workers against manufacturers such as Johns-Manville, there is tremendous litigation among the defendant manufacturers and their insurance companies to determine who will ultimately pay the damages that are awarded. Commentators have observed that the U.S. asbestos litigation benefits primarily the lawyers, and not the injured workers.<sup>76</sup> The huge number of asbestos-related cases now pending in the courts in the United States<sup>77</sup> have threatened to swamp the capacity of that legal system in some jurisdictions, greatly increasing delays for other lawsuits and of course consuming enormous resources in judicial time.

Second, private lawsuits by workers for industrial disease are unattractive because, in general, they are difficult for the worker to win. The worker must first prove that the work exposure caused his illness. This requires demonstrating that the employee was exposed to the substance in question and perhaps showing the extent of exposure. Even with asbestos-related diseases such as mesothelioma and asbestosis, if the worker had been employed in several jobs involving asbestos exposure, he might have difficulty proving that any particular defendant had caused this particular disease. Far worse is the case of lung cancer, which may be a result of asbestos exposure, smoking, dietary or other causes. It may be extremely difficult to convince a court that a particular lung cancer case was caused by asbestos exposure. While numerous asbestos victims have succeeded in

<sup>75</sup>Paul C. Weiler, *Reshaping Workers' Compensation for Ontario*, a report submitted to Robert G. Elgie, M.D., Minister of Labour ([Toronto: Ontario Ministry of Labour], November 1980), p. 20.

<sup>76</sup>See, for example, David Lauter, "Footing the Bill for Toxic Torts," *The National Law Journal* 5:21 (31 January 1983): 1, which suggested that only \$400 million of the \$2 billion that the Manville Corporation might pay in claims would reach asbestos victims, the rest going to lawyers, experts, and court costs. The litigation cost, said an insurance company officer, "is an embarrassment to us." Former Representative Millicent Fenwick (R-NJ) wrote a letter to *The New York Times* saying, "A lawsuit — is expensive and time-consuming. If an award is ever granted, it is seriously depleted by the fee charged by the worker's lawyer, and often the suit is never resolved within the victim's lifetime." *The New York Times*, 10 March 1983. *The Chicago Tribune* stated in editorial: "The chief beneficiaries are not the claimants, they are the trial lawyers." "The Asbestos Dilemma," *The Chicago Tribune*, 1 September 1982, Editorial. *The Washington Post* stated editorially: "The present system is serving no one but — who else? — the lawyers." "The Asbestos Mess," *The Washington Post*, 27 April 1982, Editorial.

<sup>77</sup>In August 1982, there were 16,500 claims pending against Johns-Manville alone, and 500 per month were being filed, according to a Manville advertisement in *The Wall Street Journal*, 27 August 1982.



recovering in U.S. lawsuits, the success rate may decline as the more difficult cases reach trial.

A third problem is the time delays involved in civil litigation. Years may pass between the worker filing a claim and his receipt of an award. During this time, the worker may be under serious financial pressure and be tempted to settle his case immediately for a small fraction of what he might ultimately be able to win. These delays, combined with the great uncertainty about the final outcome of most cases, are a serious deterrent to workers exercising the right to sue.

Finally, there is the problem of collecting any damages that are awarded by the court. While this may not be a problem in typical injury cases, it is potentially a serious problem in the case of long-latency diseases, such as the asbestos-related diseases. If the disease is not manifest for 20 or more years after exposure, and a lawsuit is not completed for many years after that, there is always the possibility that the employer will be out of business, out of the jurisdiction, or bankrupt. If the employer has left the jurisdiction, it may be possible to enforce a judgement in foreign jurisdictions, but this may be costly and time-consuming. If the employer has gone out of business, then there is no one for the employee to sue. Of immediate relevance to asbestos litigation is the possibility that the employer might file a bankruptcy petition as the Manville Corporation has done in the United States. The legal effects of filing may not be resolved by the courts for years. Even if claims may continue to be brought against the assets of the reorganized company, the reorganization may limit the total amount payable to those claimants, as is the primary purpose of the Manville filing under Chapter 11 of the U.S. *Bankruptcy Act*. The receiver has a fixed pool of assets to distribute to all claimants, and as the total of asbestos-related lawsuits increases, the amount each individual can receive diminishes since they are drawing upon a fixed pool. In any event, the maneuver of filing for bankruptcy is further lengthening the already time-consuming process of effecting settlements.

In their study for this Commission, Professor Carolyn J. Tuohy and Professor Michael J. Trebilcock reviewed tort liability and found it seriously deficient for dealing with occupational disease.<sup>78</sup> We are impressed by the litany of problems that a civil liability regime would bring and by the uncertain benefits, given the availability of bankruptcy proceedings for a beleaguered defendant such as Johns-Manville. The uncertainty, the legal costs, time delays, and burden upon the court system all lead us to reject the creation of a right for injured workers to sue their employer for redress of those injuries.

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<sup>78</sup>Carolyn J. Tuohy and Michael J. Trebilcock, *Policy Options in the Regulation of Asbestos-Related Health Hazards*, Royal Commission on Asbestos Study Series, no. 3 (Toronto: Royal Commission on Asbestos, 1982), chaps. 7 and 10.

Is creation of a tort right of action for injured workers necessary to provide adequate compensation to victims of industrial disease? We think not. With respect to other jurisdictions where injured workers have a right to sue their employer, such as England, Professor Barth testified that the level of compensation benefits is lower than what it would otherwise be on the grounds that those most seriously injured have another source of compensation.<sup>79</sup> As for the general adequacy of current workers' compensation benefits in Ontario, this is currently under review in the wake of Professor Paul C. Weiler's inquiry, posing questions which lie well beyond our terms of reference but signalling possible avenues of improvement. In the present setting, we join Professor Weiler in the conclusion that reviving a tort right of action would be a "retrograde step."<sup>80</sup>

Having decided that the compensation objective is best met within the workers' compensation system, and having rejected the creation of the right to sue by injured workers, we must now explore the workers' compensation financing system in relation to the other objectives discussed above. How well does workers' compensation serve the objectives of prevention, equity, and retributive justice? Here we face a range of tradeoffs that have been made between the principle, inherent in workers' compensation, of collective insurance of employers and the incentive to provide safe and healthy workplaces. There is also a tradeoff between the objective of collective insurance and that of equity among employers bearing the burden of compensation claims. Pursuing the prevention and equity objectives is, as we shall see, especially difficult when we are dealing with diseases of long latency, which is precisely the type of disease that is associated with asbestos.

We shall now describe the current system of financing workers' compensation, examine statutory means of enhancing the Board's role in prevention in an equitable and just manner, and make certain observations which should receive attention in reforming the financing of workers' compensation.

## C.2 The Current Financing of Workers' Compensation

The Ontario workers' compensation system collects revenue from Ontario employers by levying an assessment on the payroll of each employer. The 150,000 or more employers under Schedule 1 of the *Workers' Compensation Act* are classified into 108 industry rate groups. A rate group may have between 1 and 24,000 members. The assignment to rate groups is designed to place employers who produce similar products or provide similar services into the same rate group on the presumption that

<sup>79</sup>RCA Transcript, Evidence of Professor Peter S. Barth, 24 August 1982, Volume no. 57, p. 51.

<sup>80</sup>Weiler, *Reshaping Workers' Compensation for Ontario*, p. 14.

they have the same accident or disease risks. All employers in a given industry rate group pay the same assessment rate based on their assessable payroll. The average assessment is under 2% of payroll, but ranges from a low of 0.2% for the accounting rate group to over 16% for loading and unloading cars.<sup>81</sup> The rate for a given rate group is changed annually to reflect the percentage change in the claims experience of the group from one year to the next. A single firm with several operations may have its operations classified in different rate groups. Thus, at the beginning of 1980, Johns-Manville Canada appeared in five separate rate groups. The asbestos-cement pipe plant in Scarborough was in rate group 137: "Bricks, Blocks and Tile." The insulation plant, also in Scarborough, was in another rate group.

Within a rate group, firms may be "experience rated" if a majority of the members of the group vote in favour of experience rating. If a group is experience rated, then for each firm, its three-year average accident cost rate per \$100 of payroll will be compared to that of the entire rate group. If the firm's cost rate is lower than that for the group, the firm may receive a credit of 25% or 50% of the difference between its cost rate and the group's cost rate, multiplied by the assessable payroll for the last year. If the firm's cost rate is greater than that of the rate group, a surcharge of 25% or 50% of the difference will be made. The rate group can choose whether it wishes to be 25% or 50% experience rated. There are other limits on the extent to which a firm's rating can be modified by the experience rating plan. Importantly, for our purposes, the experience rating credit or surcharge is always a fraction of the firm's assessable payroll.<sup>82</sup>

The financing system described above is based on multiplying the assessable payroll of a firm times some percentage. If the assessable payroll drops to zero, then the firm's contribution to the Board's accident fund also drops to zero. Since a firm may have its operations classified into more than one rate group, it is possible for a firm to continue to do business in Ontario, yet cease to contribute to the fund on behalf of one of its operations. For example, Johns-Manville Canada ceased operation at its pipe plant in Scarborough in 1980. The moment that the plant was closed and the payroll terminated, Johns-Manville's contribution to the accident fund on behalf of its employees of that plant also dropped to zero. In 1981, claims, including disease claims attributed to the Scarborough pipe plant,

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<sup>81</sup> *Ibid.*, p. 81.

<sup>82</sup> The information in the preceding two paragraphs is drawn from letter and attachments from Mr. Alex Joma, Secretary, Workmen's Compensation Board to the Royal Commission on Asbestos, 22 June 1982.



totalled \$831,000. Receipts from Johns-Manville in respect of that pipe plant were zero, as were experience rating charges.<sup>83</sup>

Tragically, what we have categorized as the world-class occupational health disaster at this plant has yet to run its course. We can, therefore, expect a continuing volume of claims for asbestos-related disease due to exposure at this plant to be filed over the next decade or so. However, given the prevailing financial system, the Board will continue to record claim costs attributable to that plant and continue to record zero receipts unless the pipe plant is reopened and the payroll rises above zero. On the same property, Johns-Manville continues to do business in its insulation operations, and its other businesses in the province also continue. Similarly, when the Bendix brake operations in Windsor terminated, the relevant payroll dropped to zero as well. Asbestos-related claims filed after the termination will be recorded on the file of that plant at the Workers' Compensation Board, but there will be no contributions from Bendix to finance those claims.<sup>84</sup> Claims which are paid after an employer has left a rate group are borne by the remaining members of that rate group, unless the Board determines that this imposes an unreasonable burden on these employers, in which case they will be borne by the accident fund generally.<sup>85</sup>

The question of how well the prevailing rating system works for industrial accidents is beyond our terms of reference, but this system presents obvious deficiencies with respect to long-latency diseases. When there is a long time delay between the worker's exposure and the filing of a claim (and this delay is often 20 years or more with asbestos-related diseases), there is considerable opportunity for the employer to avoid paying for that disease when it finally appears. If an employer realizes that a large volume of claims are likely to be filed because of activities several decades previously, and if the employer accounts for a large proportion of the claims in his rate group, or the group is experience rated, there is an obvious incentive to avoid paying for the claims by reducing payroll in the activity that generated those claims and by not resuming employment activities. It is no small matter for a firm to decide to close a profitable plant. Still, one can imagine a situation where the expected workers' compensation assessments, including experience rating if it is applied, might loom sufficiently large to encourage an employer to close the plant permanently. This generates inequity among employers, because either the remaining members of the rate group, or all employers through the accident fund, must carry the expenses caused by the departed member. Equally serious, the objective

<sup>83</sup>RCA Exhibit IV-5, in RCA Transcript, Evidence of Mr. Alan G. MacDonald, 11 August 1982, Volume no. 55, p. 128: The Workmen's Compensation Board, Ontario, Inter-Divisional Communication from Mr. John C. Neal, Board Actuary to Mr. Alan G. MacDonald, Vice-Chairman of Administration and General Manager, 9 July 1982.

<sup>84</sup>RCA Transcript, Evidence of Mr. Alan G. MacDonald, 11 August 1982, Volume no. 55, pp. 119-120.

<sup>85</sup>*Workers' Compensation Act*, R.S.O. 1980, c. 539, s. 108(1).

of prevention is circumvented, since the employer can avoid even sharing these costs with other members of the group and also has nothing to fear from retribution. The contrast between the financial liability for industrial disease faced by Johns-Manville in Ontario and Johns-Manville in the United States is stunning. In addition to whatever workers' compensation payments Johns-Manville has made in the United States, it has faced lawsuits which it considered so crushing that it filed for reorganization and bankruptcy in 1982. In Ontario, between 1971 and 1981, the company paid the normal assessment for rate group 137 plus experience rating charges amounting to a total of \$2.459 million. Total workers' compensation claims from the Scarborough Johns-Manville plant over that decade imposed costs of over \$6.087 million. The Workers' Compensation Board calculated that if the company had been 100% experience rated, it would have paid \$8.285 million to the Board. Thus, there is a deficit from this plant alone of \$5.826 million,<sup>86</sup> which was to be borne by other members of rate group 137 until the Board, in October 1982, assigned the deficit to the accident fund where it is borne by all Ontario employers.<sup>87</sup> In short, Johns-Manville has borne virtually none of the costs of the disease it has occasioned in Ontario, while it was facing a staggering cost for its involvement in similar diseases in the United States.

### C.3 Recovering from High-Claims Employers

The *Workers' Compensation Act* includes a provision allowing the Board to collect revenue from an employer with an unusually high claims rate. Section 91(7) of the Act provides as follows:

Where the work injury frequency and the accident cost of the employer are consistently higher than that of the average in the industry in which he is engaged, the Board, as provided by the regulations, may increase the assessment for that employer by such a percentage thereof as the Board considers just, and may assess and levy the same upon the employer . . . .

Levies made under this section are referred to as "penalty assessments" and are governed by section 6 of Regulation 951 made under the Act, which provides as follows:

6. (1) The increase of assessment that the Board may levy under subsection 91(7) of the Act shall be levied where an employer within an individual rating classification,

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<sup>86</sup>RCA Exhibit IV-5, The Workmen's Compensation Board, Ontario, Inter-Divisional Communication from Mr. John C. Neal to Mr. Alan G. MacDonald.

<sup>87</sup>"WCB Fees Raised Over Asbestos Claims," *The Globe and Mail*, 18 October 1982.

- (a) has incurred in two of the last three complete years of operation a deficit accident cost experience, including his proper share of administration, safety and other expenses;
  - (b) has incurred a lifetime deficit accident cost experience, including his proper share of administration, safety and other expenses; and
  - (c) has incurred during two of the last three complete years of operation a frequency rate of compensable accidents at least 25 per cent higher than the average rate in the industry in which he is classified.
- (2) The actual payroll for the last complete year of operation under review shall be the basis for any additional assessment to be levied under subsection (1).
- (3) The first increase in assessment under subsection (1) shall be 100 per cent of the assessment based on the individual rating classification of the employer.
- (4) The amount of increase on any subsequent increase in assessment under subsection (1) shall be in the discretion of the Board.<sup>88</sup>

When the three conditions of section 6(1) in Regulation 951 have been met, then the Board may levy a penalty assessment which, in the first year, must be equal to the regular assessment for the last complete year, and in subsequent years can be any amount in the discretion of the Board. Despite the fact that the Scarborough Johns-Manville pipe plant led to claims at the Workers' Compensation Board during the decade 1971 through 1981 which generated a deficit for that plant of \$5.826 million, no penalty assessment has ever been levied against Johns-Manville. The three conditions specified in section 6(1) of Regulation 951 were not met until the year 1980, because until 1978 Johns-Manville's accident frequency was less than the rate group average. But in 1980, the pipe plant in Scarborough was closed, and it is apparently the Board's policy not to levy a penalty assessment on a plant after it has closed.<sup>89</sup> If a penalty assessment had been made for the year

<sup>88</sup>R.R.O. 1980, Reg. 951 under the *Workmen's Compensation Act*.

<sup>89</sup>RCA Exhibit IV-5, The Workmen's Compensation Board, Ontario, Inter-Divisional Communication from Mr. John C. Neal to Mr. Alan G. MacDonald. The following statement appears in this Exhibit under the heading Canadian Johns-Manville — 91(7) History: "This firm met the three basic conditions for a 91(7) for the three years 1978 to 1980, but it was not levied since Johns-Manville discontinued operations under firm and rate combination in May 1980."



1980, the amount would have been specified by section 6(3) of Regulation 951 as 100% of the assessment based on the individual rating classification of the employer. In 1980, the assessment of the pipe plant was \$60,985, so the penalty assessment for that year would have been precisely this amount.<sup>90</sup>

Can the Workers' Compensation Board now levy a penalty assessment under section 91(7) of the Act for 1980, even though the pipe plant is closed? The Board apparently believes that this is either impossible or inappropriate, but we find nothing to sustain this view. Because the Johns-Manville plant did not close until May 1980, it still had a payroll during that year. In our view, failing to levy an assessment in the case of Johns-Manville sends a perverse message to other employers in the province that even a disastrous worker health experience need not lead to the exercise of section 91(7). Such a message destroys any incentive that might otherwise exist through the workers' compensation system to protect the health of workers. We see nothing in the language of section 91(7) of the Act or of section 6 of Regulation 951 which would preclude the application of a penalty assessment to Johns-Manville for the year 1980 even at this time. The employer, Johns-Manville Canada, is still doing business in the province and is available to pay a penalty assessment. We therefore recommend that:

*14.8 The Workers' Compensation Board should levy against Johns-Manville Canada the maximum penalty assessment that can be made under section 91(7) of the Workers' Compensation Act in respect of the operation of the asbestos-cement pipe plant in Scarborough which, in 1980, was a member of rate group 137.*

This penalty assessment, if applied for 1980, would collect approximately \$60,000, which is only 1% of the \$5.8 million deficit of revenues from the pipe plant subtracted from the revenues that would have been collected if the firm were 100% experience rated. Equity among employers, to say nothing of the prevention objective, will not be achieved by such minor penalties.

The subject of penalties is one which we believe can and should be addressed separately from the matter of experience rating. Obviously, the latter can serve the prevention and equity objectives, although the insurance function of workers' compensation is also an important one, not to be dismissed lightly. We shall address the appropriateness of applying experience rating to industrial disease later in this chapter. Special penalties are a different matter, because they serve retributive justice, and through this objective also serve the goals of prevention and equity. In the realm of industrial disease, there exists in our view a circumstance in which a sub-

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<sup>90</sup>Ibid., Appendix A, p. 4.

stantial volume of disease claims cries out for justice. This circumstance exists where the adverse health claim experience is the result not of chance but of a firm having exposed its employees to a serious health risk without divulging to them what the firm knew about the nature and magnitude of that risk. We trust that this circumstance has been unusual in Ontario in the past and will be truly exceptional in the future. Because this Commission was not established to determine past wrongdoing, we have not investigated and do not pass judgement upon any knowledge that Johns-Manville Canada may or may not have possessed about the health risks that its workers faced in the 1950s and 1960s, although we observe that American courts have held that certain asbestos employers had knowledge at or before this time.<sup>91</sup> The point remains, as a general proposition, that the possibility of retributive justice is at its most desirable in exceptional circumstances.

We consider that the *Workers' Compensation Act* should be amended to permit the Board to serve the interests of retributive justice in the circumstance we have outlined. This should involve not a penalty assessment by the Board, but instead, given the seriousness of withholding knowledge about health hazards from workers, a statutory right of the Board to take action against an employer whom it believes has withheld such knowledge from its employees. The seriousness of this matter is such that its determination is best left to the courts. The Board should be able to invoke this statutory right of action whenever an employer's disease record has become sufficiently serious to result in claims whose value exceed its contributions to the workers' compensation system, however experience rated. So as to focus the attention of the litigants and the courts solely upon the matter of employer knowledge, and thereby circumvent the time-consuming matter of assessing damages, we believe that the statute should fix the amount that could be recovered by the Board in a successful action. We suggest that this amount should be fixed at twice the amount paid out on behalf of the employer's disease claims, one-half to replenish the accident fund, the other half to be apportioned by the Board as an additional award to its claimants.

In line with the above considerations, we recommend that:

- 14.9 The Workers' Compensation Act should be amended to give the Workers' Compensation Board a statutory right of action against any employer the value of whose disease claims exceeds his contributions to the accident fund when the Board has reason to believe that the employer withheld from his employees knowledge which he possessed about the hazardous nature of a substance to which he exposed them. The amount of recovery by the Board should be statutorily fixed as*

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<sup>91</sup>For example, *Borel v. Fibreboard Paper Products Corporation*, 493 F.2d 1076 (1973), cert. denied 419 U.S. 869 (1974); and *Karjala v. Johns-Manville*, 523 F.2d 155 (1975).

*twice the value of the employer's disease claims occasioned by the substance in question, one-half to be paid into the accident fund, the other half to the claimants involved.*

## C.4 Prevention and the Financing of Workers' Compensation

The statutory right of action that we have prescribed for the Board in exceptional circumstances should exist independently of whatever general framework is in place for financing workers' compensation. As for this framework, Professor Weiler has addressed the outline of what it might contain. In his 1980 report, he recommended that more extensive use be made of experience rating and addressed the problem of ensuring that a firm discharges its obligations to the compensation fund if it leaves the industry or the province.<sup>92</sup> In his 1983 report, he again endorsed the concept of experience rating, but suggested that long-latency diseases may not appropriately be part of any experience rating programme.<sup>93</sup> The Board is currently considering a universal system of experience rating that might be more aggressive than the current system.<sup>94</sup>

We wish to address the appropriateness of experience rating with respect to long-latency diseases, of which all asbestos-related diseases are a classic case in point. We join Professor Weiler in his observation that experience rating for such diseases will likely not generate substantial incentives for prevention given the number of years, equivalent to a generation, that separate a firm at the time of the exposure from that same firm at the time disease occurs. We must point out, however, that whatever the limitations of experience rating with respect to prevention, such rating preserves horizontal equity among employers once long-latency disease materializes. As we have described it, the Johns-Manville experience as a member of rate group 137 seriously offends the principle of horizontal equity.

In time, the asbestos episode is one that will recede into history. The current occupational health regime, as embodied in the *Occupational Health and Safety Act*, requires the disclosure of hazardous substances, provides for their designation, and mandates their regulation. Such disease risk as may remain should be sufficiently low that experience rating might well be reduced, or even eliminated, in deference to the principle of collective employer insurance. We are content to leave this debate to others.

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<sup>92</sup>Weiler, *Reshaping Workers' Compensation for Ontario*, chap. 3.

<sup>93</sup>Paul C. Weiler, *Protecting the Worker from Disability: Challenges for the Eighties*, a report submitted to Russell H. Ramsay, Minister of Labour ([Toronto: Ontario Ministry of Labour] April 1983), pp. 129-130.

<sup>94</sup>*Ibid.*, p. 120.



However, we feel bound to observe that the phenomenon of long-latency disease is precisely such that, for at least the next two decades, asbestos-related disease claims will be related to industrial exposures that antecede the current occupational health regime. In this setting, experience rating can of course do nothing to prevent past exposure but has major implications for equity among employers. This speaks for a situation in which, however the Board might contemplate revising the experience rating of industrial disease generally, it should consider the financing of asbestos-related claims, at least to the turn of the century, as a special case. The principle of horizontal equity speaks for greater rather than less experience rating than the minimal degree which applies at present. Accordingly, we recommend that:

*14.10 In approaching the matter of any revisions in the experience rating of industrial disease, the Workers' Compensation Board should consider the financing of asbestos-related claims, until at least the turn of the century, as a special case. The Board should be sensitive to the proposition that the principle of horizontal equity speaks for greater rather than less experience rating among asbestos employers, and at a minimum does not countenance less experience rating than applies at present.*

Professor Weiler has posed an alternative to experience rating for long-latency disease resulting from future exposure that may simultaneously serve the goals of prevention and equity. This alternative is the exposure charge, which is a payment made by an employer based upon the extent of employee exposure to hazardous substances and paid at the time of exposure, rather than at the time the disease develops.<sup>95</sup> The revenues from such a charge could be paid into the compensation fund, and thereby reduce the burden upon employers who do not expose their employees to hazardous substances, while increasing the financial burden on those who do. This serves the equity objective. It could also serve the prevention objective, since the charge could be directly proportional to the number of employees exposed and the extent of their exposure. In this form, an exposure charge could support the implementation of the ALARA principle (As Low As Reasonably Achievable), to which we attach great importance. (See Chapter 8.) It could become an additional incentive for achieving the lowest practical level of exposure because the amount paid would decrease as measured exposure below the control limit fell. At this juncture, the financing of workers' compensation through exposure charges would have become a useful adjunct in the implementation of the designated substances regulations of the Ministry of Labour. Furthermore, the Advisory Council on Industrial Disease Policy, whose creation we have prescribed, would be the logical body to develop exposure charge policies, substance-by-substance.

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<sup>95</sup>Ibid., pp. 131-134.

If we are ourselves attracted by the merits of the exposure charge idea in principle, we must also acknowledge that the asbestos experience underlines genuine practical limitations. A formidable difficulty with exposure charges can be determining the charge rate: How many dollars per employee per year must the employer pay? The premium cannot be based upon the resulting disease, because that disease will not manifest itself, by definition for long-latency diseases, until decades after the exposure. It might be based upon current disease claims being paid by the Workers' Compensation Board. This has the disadvantage, however, that current disease is the outcome of past rather than present exposure and may not have originated with present employers.

Alternatively, the exposure charge could be based upon forecasts of future disease derived from epidemiological studies. An exposure charge is most likely to be levied upon substances whose hazard has been well-established. It might in fact be limited only to designated substances. By the time a substance is designated, it often has been used for many years, and its hazards may be well known. In the case of asbestos, numerous epidemiological studies allowed us to make a number of forecasts of future disease rates, as shown in Chapter 7. With respect to workplace hazards as thoroughly studied as asbestos, the data base exists for basing the charge upon forecasts of disease.

That very data base, however, can be used to regulate exposure levels or to ban a hazardous substance from the workplace altogether. We ourselves use the data base for these purposes in Chapter 7. In the result, we either restrict or ban many industrial applications of asbestos; the principal activity we condone in fixed place industry is chrysotile manufacturing at a control limit of 1 fibre per cubic centimetre (f/cc), textile manufacturing excepted. It remains possible to calculate an exposure charge from a forecast of possible disease in this regulated activity, but the utility of the exposure charge, as a practical matter, becomes questionable because its level is trivial. As we point out in Chapter 7, an enforced control limit of 1 f/cc means a true average worker exposure of 0.5 f/cc. The volume of disease that might materialize at this level is sufficiently low that a brake manufacturing employer in 1983 would, if presented with an exposure charge calculated on the basis of the present value of future claims from forecast disease, pay less than \$10 per year per exposed employee. This amount is inconsequential in comparison to the cost of reducing employee exposure further, which we estimate to be in the thousands of dollars per employee. (See Chapter 6.) It follows that in this instance, an exposure charge generates no incentive for lower exposure.

While this hard case deflates the full-blown argument that can be made for exposure charges in principle, it does not in our view obviate the notion of exposure charges altogether. There are instances where exposure charges might be based on arbitrary figures rather than present disease

claims or forecasts of future disease. More likely than not, however, exposure charges will find their potential with substances other than asbestos. Instances where such charges might be developed by the Board should be identified with the co-operation of the Ministry of Labour and the assistance of the Advisory Council on Industrial Disease Policy. We recommend that:

*14.11 The Workers' Compensation Board should be sensitive to the potential of exposure charges on a selective basis, but should take notice that asbestos is likely not appropriate for such charges. Instances where such charges might appropriately be developed should be identified with the co-operation of the Ministry of Labour and the assistance of the Advisory Council on Industrial Disease Policy.*





## **Part VII**

### **Learning from the Asbestos Experience**





# **Chapter 15    Identifying and Designating Hazardous Substances**

## **A. Introduction**

To learn from the asbestos experience is to learn from the harshest of schoolmasters — human tragedy. It is a fact that society has all too often required this stern tutelage to assimilate its lessons. This is strikingly evident in the realm of regulation. One can think of the Titanic and its impact on the regulation of radio communications at sea, of typhoid epidemics and their impact on the regulation of drinking water, of mine cave-ins and their impact on the regulation of mining. One can think of asbestos. This entire Report has been an exercise in learning from the asbestos experience and discerning the lessons it teaches about health hazards and their regulation. In addition to the many lessons addressed so far, we consider that the asbestos experience teaches lessons on two other subjects: the identification of hazardous substances; and the designation of substances that occasion health hazards in the workplace. We address these topics in this, the final chapter of our Report.

## **B. Hazard Identification**

### **B.1 Occupational Exposure**

It is now universally recognized that the exposure of workers to asbestos has left an appalling legacy of human disease and death. Estimates we canvass in Chapter 14 indicate that between 100,000 and 200,000 workers in the United States will ultimately die from workplace exposures to asbestos. Most of these U.S. workers were exposed to asbestos beginning in the 1940s. Yet a report to the British Parliament in 1930 stated “. . . that the inhalation of asbestos dust over a period of years results in the develop-

ment of a serious type of fibrosis of the lungs.”<sup>1</sup> This report led to the adoption in 1931 of regulations on the exposure of workers to asbestos in the United Kingdom.<sup>2</sup> How could so many workers be exposed to ultimately fatal asbestos dust levels after an official study had determined that asbestos posed a health hazard and the substance had come under regulation?

The answer is in part that while the British study linked asbestos exposure with worker disease, it did not indicate the relationship between exposure levels and the volume of disease, nor did it identify all relevant diseases. This 1930 report dealt only with asbestosis; the linkage between asbestos and lung cancer was not suggested until the mid-1930s,<sup>3</sup> was not systematically demonstrated until Doll published his seminal work in 1955,<sup>4</sup> and was not widely appreciated until the Selikoff study was published in 1964.<sup>5</sup> Mesothelioma was not clearly linked to asbestos exposure until the work of Wagner, published between 1960 and 1965.<sup>6</sup>

Furthermore, while a study might link asbestosis with historical asbestos exposures, it was possible to argue that if exposure were visibly reduced, the disease might be greatly reduced or eliminated. Thus, Lanza, referring in 1936 to the United States and England, could state that “. . . energetic steps have been taken to control the dust hazard in asbestos plants, so that it is probable that further cases of disabling asbestosis will be rare. . . .”<sup>7</sup> In 1938, the seriously flawed Dreessen study supported the linkage between asbestos exposure and asbestosis, but managed to conclude that “. . . if the dust concentration in asbestos factories could be kept

<sup>1</sup>E.R.A. Merewether and C.W. Price, *Report on the Effects of Asbestos Dust on the Lungs and Dust Suppression in the Asbestos Industry* (London: His Majesty's Stationery Office, 1930).

<sup>2</sup>U.K., Asbestos Industry Regulations (1931), Statutory Rules and Orders, 1931, no. 1140 (London: His Majesty's Stationery Office, 1931).

<sup>3</sup>K.M. Lynch and W.A. Smith, “Pulmonary Asbestosis III. Carcinoma of Lung in Asbestos-silicosis,” *American Journal of Cancer* 14 (1935): 56–64; S.R. Gloyne, “Two Cases of Squamous Carcinoma of the Lung Occurring in Asbestosis,” *Tubercle* 17 (October 1935): 5–10; S.R. Gloyne, “A Case of Oat Cell Carcinoma of the Lung Occurring in Asbestosis,” *Tubercle* 18 (December 1936): 100–101; and D.S. Egbert and A.J. Geiger, “Pulmonary Asbestosis and Carcinoma, Report of a Case with Necropsy Findings,” *American Review of Tuberculosis* 34 (July 1936): 143–146.

<sup>4</sup>Richard Doll, “Mortality from Lung Cancer in Asbestos Workers,” *British Journal of Industrial Medicine* 12 (1955): 81–86.

<sup>5</sup>Irving J. Selikoff, Jacob Churg, and E. Cuyler Hammond, “Asbestos Exposure and Neoplasia,” *Journal of the American Medical Association* 188 (1964): 22–26.

<sup>6</sup>J.C. Wagner, C.A. Sleggs, and P. Marchand, “Diffuse Pleural Mesothelioma and Asbestos Exposure in the North Western Cape Province,” *British Journal of Industrial Medicine* 17 (1960): 260–271; and J.C. Wagner, “Epidemiology of Diffuse Mesothelial Tumors: Evidence of an Association from Studies in South Africa and the United Kingdom,” *Annals of the New York Academy of Sciences* 132, Art. 1 (31 December 1965): 575–578.

<sup>7</sup>A.J. Lanza, “Asbestosis,” *Journal of the American Medical Association* 106 (1 February 1936): 368–369.

below 5 million particles [per cubic foot]. . . new cases of asbestosis probably would not appear.”<sup>8</sup> Thirty years later, in 1968, the Committee on Hygiene Standards of the British Occupational Hygiene Society made a similar conclusion, but the associated level of exposure was 2 fibres per cubic centimetre (f/cc), a tiny fraction of 5 million particles per cubic foot (mppcf).<sup>9</sup> This 1968 finding was itself disputable; even more significantly, however, lung cancer and mesothelioma apparently were not major considerations in establishing the 2 f/cc recommendation. The differing risks associated with crocidolite and amosite as compared to chrysotile in causing mesothelioma were not reflected in regulations until the 1970s and even today are not universally accepted, as evidenced in the United States by the Occupational Safety and Health Administration’s (OSHA) 2 fibre per cubic centimetre standard for all types of asbestos, and by OSHA’s November 1983 Emergency Temporary Standard of 0.5 f/cc, also for all types of asbestos (subsequently stayed by court order). The widely publicized 1976 National Institute for Occupational Safety and Health (NIOSH) recommendation that all workplace exposures in the United States should be controlled to a limit of 0.1 f/cc is likewise blind to the differing risks from different fibre types. As for the different risks posed by the use of asbestos in different industrial processes, we know of no jurisdiction in the world that regulates asbestos accordingly. To the best of our knowledge, ours is the first official study to frame formal recommendations to the effect that asbestos requires different regulatory responses in different industrial processes.

This chronicle of events demonstrates that the process of hazard identification can unravel slowly, and that regulatory responses can lag behind the knowledge that slowly accumulates while a mounting toll of disease and death is borne by workers who are thereby cast in the role of human guinea pigs. Is there no alternative? There can be no iron-clad assurance that the asbestos experience will not be repeated. A hazard may initially be identified in relation to one disease when it is in fact associated with others as well. Different types of a single substance may pose different risks. Then there is the matter of dose-response or the extent to which different levels of exposure give rise to different rates of disease. Such uncertainties cannot be wished away and mean that a repetition of the asbestos experience is always in the realm of the possible.

Surely, however, there is an alternative that lies in swifter identification through animal experiments and other techniques and swifter regula-

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<sup>8</sup>Waldemar C. Dreessen et al., *A Study of Asbestosis in the Asbestos Textile Industry*, U.S. Public Health Bulletin, no. 241 (Washington, D.C.: U.S. Government Printing Office, August 1938), p. 117.

<sup>9</sup>British Occupational Hygiene Society, Committee on Hygiene Standards, “Hygiene Standards for Chrysotile Asbestos Dust,” *Annals of Occupational Hygiene* 11 (1968): 47–69.



tory response. And the good news is that there has been a transformation in society's perception of health and the factors influencing health.

In the last forty years, our improved knowledge of the principal factors that contribute to life expectancy has led to a much clearer appreciation of the effects of occupation, environment, nutrition, and lifestyle. The development of our understanding of cancer, its causes, and the limited value of medical therapy has led some distinguished scientists to emphasize that the eventual control of cancer does not reside in cure but in prevention.<sup>10</sup> With the great increase in life expectancy that occurred in this century as a result of the prevention of premature death from infectious disease, our attention is now focused on diseases such as cancer that cause premature death in the adult population. It was not until the 1950s that the recognition of the relationship between smoking and lung cancer began to be established. In the workplace, we have become sensitized to the importance of disease prevention because of the death occasioned by past use of hazardous substances. Society now recognizes the important contribution of factors in the human environment to premature death, that medical treatment is limited in what it can do for many diseases, and that for these diseases prevention is more effective than cure. Society's appreciation of these facts is spawning more effective approaches to hazard identification and swifter regulatory response. Interestingly, there is a facet of the asbestos experience which simultaneously testifies to society's new appreciation of the importance of disease prevention and to the new swiftness of regulatory response. This facet of the asbestos experience, however, involves another lesson: the importance of being discriminating in the formulation of regulatory responses.

## B.2 Non-Occupational Exposure

As we have seen, the process of identifying asbestos as an occupational hazard has unravelled slowly, as have the strictness and sophistication of the regulatory response. In the non-occupational realm, the story is very different. By the 1970s, society was sensitized to the contribution of the environment to disease and to the importance of prevention. As the enormity of the public health disaster that had befallen asbestos workers came to be appreciated by the public during the 1970s, regulations were imposed and protective actions were taken in situations which, given today's information, represent understandable but unwarranted over-reaction to public concern about what had been identified as a dangerous workplace killer. Beginning in the mid-1970s, school systems across the United States and Canada launched massive efforts to remove asbestos from school

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<sup>10</sup>Richard Doll and Richard Peto, "The Causes of Cancer: Quantitative Estimates of Avoidable Risks of Cancer in the United States Today," *Journal of the National Cancer Institute (JNCI)* 66:6 (June 1981): 1191-1308.

buildings because of parental concern over health effects on their children. In his study for this Commission, Professor G. Bruce Doern presented a history of the treatment of asbestos in schools in Ontario, noting that in 1980 the death of a Scarborough school carpenter from mesothelioma occasioned by occupational exposure heightened public apprehension in Ontario about risks to building occupants.<sup>11</sup> While this was an occupational death, parents reasoned that if a school carpenter could be killed by asbestos in schools, so could school children. This gave impetus to the programme for removing asbestos from schools in Ontario. As we indicate in Chapter 10, there are occasions when asbestos removal is warranted, but these will almost always be justified by the need to reduce the exposure of building workers to asbestos, rather than the need to reduce the exposure of building occupants. Thus, even though the deaths that led to asbestos being identified as a problem in buildings were work-related deaths, asbestos was misapprehended as a hazard to building occupants. We show in Chapter 9 that unless asbestos is being disturbed or falling onto the building surfaces, the health risk it poses to building occupants is insignificant. The exposure of building occupants would generally be 1/10,000, with a few exposures as high as 1/1,000 of those which led to disease among building insulation workers. Yet, throughout Canada and the United States, hundreds of millions of dollars have been spent removing asbestos from buildings in the belief that this would provide protection for building occupants.

How could asbestos in buildings have been misidentified as a public health concern, at such tremendous public expense? Part of the answer lies in the absence, until very recently, of reliable measurements of occupant exposures to asbestos. The special difficulties of measuring airborne asbestos levels in buildings, which are catalogued in Chapter 9, meant that there was little reliable data that could be used to demonstrate the absence of significant airborne fibre levels until recently. Furthermore, the difficulties in using epidemiological studies to detect small increases in the lung cancer rate meant that it was difficult to prove that building exposures were not causing increased disease rates. Yet it remains intriguing that in the workplace context, the absence of information led to under-regulation, while in the buildings context, the absence of information led to over-reaction. This over-reaction was not abated by the U.K. Advisory Committee on Asbestos, which reported in 1979 that:

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<sup>11</sup> G. Bruce Doern, *The Politics of Risk: The Identification of Toxic and Other Hazardous Substances in Canada*, Royal Commission on Asbestos Study Series, no. 4 (Toronto: Royal Commission on Asbestos, 1982), chap. 2.

... unless contaminated buildings are very much commoner than seems likely no appreciable mortality from lung cancer can be associated with any degree of contamination by chrysotile likely to be encountered in the U.K. in the ambient air or in buildings not under active construction or repair. However we emphasise once more the need for further information about asbestos levels in buildings.<sup>12</sup>

The Advisory Committee then recommended a survey to determine dust levels more accurately and concluded that:

Our evidence of the non-occupational risk is not such as to prompt us to recommend the general removal of asbestos from existing buildings.<sup>13</sup>

The buildings experience demonstrates the critical importance of discriminating among the risks that may be presented by a substance. Something that has been a killer in the workplace may not require control actions in other situations. Other examples of hazard misidentification related to asbestos are documented in this Report. Thus, for instance, the use of asbestos in hairdryers has been regulated despite the absence of any evidence that significant fibre release was possible, while the sale of free-form asbestos is still unregulated.<sup>14</sup> The use of asbestos filters in wine-making has been regulated, despite the absence of evidence that drinking asbestos-containing fluids can present health risks.<sup>15</sup> The asbestos content of drinking water supplies has been the subject of emotional public debate, despite the absence of evidence of any health risk from this source.<sup>16</sup> In the Toronto subway, asbestos brake linings were replaced with non-asbestos brake linings, despite low asbestos fibre levels in the subway, and the brief exposure of the general public to the subway atmosphere.<sup>17</sup>

## C. Observations and Recommendations

In his study for this Commission, Professor Doern reflected generally on problems that beset the process of identifying hazardous substances and suggested various approaches that could be taken to improve the process.<sup>18</sup>

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<sup>12</sup>U.K., Advisory Committee on Asbestos, *Asbestos — Volume 1: Final Report of the Advisory Committee* (Simpson Report), William J. Simpson, Chairman (London: Her Majesty's Stationery Office, 1979), paragraph 132, p. 63.

<sup>13</sup>Ibid., paragraph 248, p. 91.

<sup>14</sup>See Chapter 11, Section A of this Report.

<sup>15</sup>See Chapter 11, Section B of this Report.

<sup>16</sup>Ibid.

<sup>17</sup>See Chapter 11, Section C of this Report.

<sup>18</sup>Doern, *The Politics of Risk: The Identification of Toxic and Other Hazardous Substances in Canada*, chap. 5.



We commend this study to readers who wish to pursue the subject, and we offer here a distillation of our own observations. Given a hazardous substance that has been studied as thoroughly and for as many years as asbestos, one way to probe the dimensions of the hazard and to discern discriminating regulatory responses is through an inquiry as elaborate as this one. We are content to leave the merits of this approach to the judgement of readers of this Report, and of other similarly elaborate studies, whether of asbestos or other substances, in other jurisdictions. Even if this approach has merit, it is in our view, given its cost in money and time, clearly not a substitute for the development of ongoing, institutionalized approaches to the matter of hazard identification in both the public and private sectors.

During the last decade a number of approaches have been developed to determine whether potentially hazardous substances can be pre-screened in laboratory and animal experiments before humans become exposed to them, and thus avoid unnecessary exposure of humans to damaging substances. There are encouraging signs that the private sector is increasingly promoting these developments, spurred on, at least in part, by the example of the costly litigation that is so clearly devastating the asbestos industry in the United States. Some major chemical companies provide detailed information about the hazardous nature of materials to firms and organizations wishing to use the substance. These companies may even require the firm or organization to which the substance is being sold to provide evidence that they can use the substance safely. This development is most welcome, not least because hazard identification has been often complicated by private sector concern with maintaining trade secrets.

However welcome ongoing developments in the private sector may be, governments clearly need to enhance their own capacities in the realm of hazard identification. Efforts have either been mounted or suggested in this regard, but the picture, at least in Canada and the United States, remains spotty. The U.S. Environmental Protection Agency (EPA) is empowered by the *Toxic Substances Control Act* to require industry to supply information on how and to what extent people and the environment are exposed to certain chemicals, to notify the EPA about new substances to be produced, and to supply the results of studies about the hazards of chemicals.<sup>19</sup> The U.S. Occupational Safety and Health Administration adopted in 1980 "The OSHA Cancer Policy," which classifies suspected carcinogens into two categories depending upon the evidence of carcinogenicity, treats some scientific questions as resolved and not subject to question in the rule-making process, and presents a system of setting priorities in rule-making.<sup>20</sup>

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<sup>19</sup> *Toxic Substances Control Act of 1976*, 15 U.S.C. §2601-2629 (1981).

<sup>20</sup> U.S., Department of Labor, Occupational Safety and Health Administration, "Identification, Classification and Regulation of Potential Occupational Carcinogens," 29 CFR Part 1990, 45 FR 5002-5296, 22 January 1980.

The Policy has never been fully implemented because of court challenges and opposition to a number of its aspects.<sup>21</sup>

The difficulties that "The OSHA Cancer Policy" has experienced aside, we expressed in the course of our hearings our own interest in the extent to which liaison has developed in the United States between EPA and OSHA. Our interest, of course, stemmed from the extent to which asbestos exemplifies a substance that occasions different risks in the workplace and in the environment. Dr. Bailus Walker, Jr., former Director of Health Standards Programs at OSHA, testified before us that he had personally convened a meeting with EPA concerning "The OSHA Cancer Policy," and that there were indeed a number of occasions when the two agencies examined the implications of occupational control for environmental control and vice-versa. However, in Dr. Walker's words, "If there had been some facilitating mandate from Congress or from the Executive Branch, I think [the liaison] would have been far more productive."<sup>22</sup>

The Canadian context of hazard identification differs in many ways from the American, but features the similar absence of a mandate from the highest echelons of government to develop coherence and co-ordination. At the federal level, the Canadian *Environmental Contaminants Act* provides for the identification of the entry of chemicals into the environment and an assessment of their probable impact.<sup>23</sup> Chemicals may be placed in one of three categories depending on the hazard they present. At the provincial level, the Ontario Ministry of the Environment exercises responsibility for the identification and control of hazards under no fewer than four statutes.<sup>24</sup> Meantime, the *Occupational Health and Safety Act* gives the Ontario Ministry of Labour its own mission with respect to regulating workplace hazards and enjoins employers to reveal the nature of substances they introduce in the workplace. The Minister of Labour's Advisory Council on Occupational Health and Occupational Safety has developed a Discussion Paper on the control of workplace carcinogens.<sup>25</sup> There may be liaison between the environmental and occupational realms, for example, through the Ontario Deputy Ministers' Committee on Occupational and Environmental Health, and across federal and provincial jurisdictions. But there remains an absence of structure, an absence of a mandate.

<sup>21</sup> Doern, *The Politics of Risk: The Identification of Toxic and Other Hazardous Substances in Canada*, p. 4.12.

<sup>22</sup> Ontario, Royal Commission on Asbestos, Transcript of Public Hearings, Evidence of Dr. Bailus Walker, Jr., 20 May 1982, Volume no. 36, p. 123.

<sup>23</sup> *Environmental Contaminants Act*, S.C. 1974-75-76, c. 72.

<sup>24</sup> *Environmental Protection Act*, R.S.O. 1980, c. 141; *Ontario Water Resources Act*, R.S.O. 1980, c. 361; *Pesticides Act*, R.S.O. 1980, c. 376; and *Environmental Assessment Act*, R.S.O. 1980, c. 140.

<sup>25</sup> Ontario, Advisory Council on Occupational Health and Occupational Safety, "The Control of Workplace Carcinogens: A Discussion Paper Prepared by the Advisory Council on Occupational Health and Occupational Safety," Toronto, 30 June 1982. (Mimeographed.)

In 1977, the Science Council of Canada, which is a federal government advisory body on science policy, published a report entitled *Policies and Poisons*. As Professor Doern summarized it:

The report analyzed the containment of long-term hazards to human health in the environment and in the workplace. . . . To enable Canada to have a better process of risk assessment and a better process for the determination of acceptable risks, the Science Council recommended that a National Advisory Council on Occupational and Environmental Health (NACOEH) be established by statute. NACOEH's mandate would be to designate hazards and ensure that assessments of risks are undertaken and published in respect of any hazard it may designate. It would also be responsible for publishing recommended standards of maximum permissible exposure levels for Canada. NACOEH would evaluate and recommend which hazards should be subjected to regulatory control but it would *not* be the regulator.<sup>26</sup>

After six years, the recommendation of the Science Council still awaits a federal response. While the federal government did involve itself in the creation of an organization called the Canadian Centre for Occupational Health and Safety, this body, in Professor Doern's words, ". . . can in no way be considered an aggressive new initiative in occupational health and safety nor is it a research agency such as that envisaged by the Science Council. . . ."<sup>27</sup> We have no comment on whether the precise structure recommended by the Science Council is more appropriate than other alternatives, but we urgently invite governmental response to the need for a national hazard identification agency whose mandate involves identification and assessment, not regulation, and that transcends the realms of occupational and environmental health. Because research results are a common pool of knowledge useful to all governments, such an agency can most effectively be mounted as a national agency with a capacity to liaise extensively with hazard identification agencies in other countries.

There are three alternative ways such a national agency could come into being. Under the first alternative, the federal government could create a new agency or designate one of its existing agencies, for example, the National Research Council, to fill the role. Such an agency would thereupon develop extensive links with the provinces. In the second alternative, the federal and provincial governments could jointly create and finance an intergovernmental hazard identification agency. The third option would en-

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<sup>26</sup>Doern, *The Politics of Risk: The Identification of Toxic and Other Hazardous Substances in Canada*, pp. 4.17-4.18.

<sup>27</sup>Ibid., p. 4.19.



visage vesting the hazard identification role in a non-governmental institution which could be either university-connected (for example, the Canadian Centre for Toxicology, which is based in the Universities of Guelph and Toronto) or be a free-standing, non-profit institution. Whatever the alternative, we express the view that the Government of Ontario, to which we report as a Commission, should stimulate other Canadian governments to work towards the expeditious establishment of a national hazard identification agency, and we accordingly recommend that:

*15.1 The Government of Ontario should take steps, using its established channels of federal-provincial communication, to promote the expeditious development of a national agency for hazard identification and risk assessment that would serve the needs of governments at all levels of jurisdiction. This agency might be a federal agency, an agency jointly created by the federal government and the provinces, or a university-based centre or free-standing, non-profit institution with a mandate and funding provided jointly by the federal and provincial governments.*

A national hazard identification and risk assessment agency should not, and indeed cannot, have a monopoly over these functions. Operating ministries such as the Ministry of Labour and the Ministry of the Environment will, in the normal course of discharging their regulatory responsibilities, uncover information that leads them to identify hazards of various types. A national agency can be in a position to provide valuable information, but it cannot assume all the hazard identification and risk assessment tasks that are associated with ongoing regulatory responsibilities.

The need for communication among operating ministries with such responsibility remains. Equally acute is the need for co-ordinated communication between these ministries, on the one hand, and the public, on the other. Nowhere is this need more tellingly illustrated than in the development of standards and guidelines for asbestos exposure in workplaces and in buildings. The Ontario Ministry of Labour has a control limit of 1 f/cc for chrysotile exposure in workplaces. Meantime, the Ontario Ministry of the Environment has a guideline of 0.04 f/cc for asbestos in the ambient air generally extrapolated to building air. A crucial feature of these two reference numbers is that they cannot be directly compared, because they are based on different measurement techniques.<sup>28</sup> The transmission electron microscope (TEM) used for ambient air quality monitoring will detect and report fibres thinner than can be seen and counted using the optical microscope (PCM) that is routinely applied for workplace monitoring. Thus, as we see in Chapter 9, a TEM environmental fibre count will in general be overstated in comparison to a PCM fibre count by perhaps one order of

<sup>28</sup> See Chapter 11, Section C.1 of this Report.

magnitude, that is, approximately 10 times. It follows that the Environment guideline is less like 1/25 and more like 1/250 the Labour control limit for chrysotile exposure. This appears to us not to be recognized by most officials in these agencies; even less has it been communicated to the public. There is thus rampant confusion about the interpretation of air quality measurements made in buildings and unwarranted alarm raised among building occupants who have not been made aware of the differences that must govern the interpretation of TEM and PCM measurements. We consider that the Ministries of Labour and of the Environment should jointly seize the opportunity, as soon as possible after the release of this Report, to prepare an information sheet which, in the simplest possible terms, would explain to the public the differences between TEM and PCM counts and the consequent irrelevance of making a direct comparison between the numerical Labour control limits and the numerical Environment guideline. We therefore recommend that:

*15.2 The Ministries of Labour and of the Environment should, as soon as possible after the release of this Report, prepare and disseminate an information sheet which explains, in the simplest possible terms, the differences between the measurement techniques used to derive fibre counts in fixed workplaces and the measurement techniques used to derive fibre counts in building air, and of the consequent irrelevance of making direct comparisons between the numerical asbestos control limits of the Ministry of Labour and the numerical guidelines of the Ministry of the Environment.*

We have a final observation in the realm of hazard identification and public communication which pertains to the role of the media and of politicians. While we have argued in favour of better co-ordination among government departments, and for a hazard identification and risk assessment agency that will cut across departmental and federal-provincial lines, we firmly believe that such "bureaucratic solutions" are not a substitute for the role that the media and politicians have played and will play. The charge that media and politicians have sometimes over-dramatized hazardous substances is not without foundation, but neither is the charge that bureaucratic solutions are the products of neat and tidy minds whose objective is to permit governments to enjoy the quiet life. Such charges all too easily obscure what is desirable and indeed invaluable. The media have a crucial role in bringing hazards to the attention of the public, both through independent investigative journalism and as a forum for publicizing scientific findings. Elected representatives, not least as recipients of information from their constituents, can sometimes be uniquely situated to bring hazards to the attention of governments and the public. More generally, in our system of responsible government, they act as the agents of the electorate to test the efficacy of hazard identification and regulation. To the extent that over-dramatization by the media and politicians, or bureaucratic pursuit of the quiet life, can sometimes prevail, the issue should be faced

and not circumvented. To this end, a national hazard identification and risk assessment agency should encourage open contact among journalists, politicians, and public servants.

## D. The Process of Designating Hazardous Substances

During the existence of this Commission, asbestos became a designated substance under the *Occupational Health and Safety Act*.<sup>29</sup> Section 41(1) of that Act authorizes the Lieutenant Governor in Council to make regulations, and section 41(2), paragraph 14 specifically authorizes "prescribing any biological, chemical or physical agent or combination thereof as a designated substance," while section 41(2), paragraph 15 authorizes "prohibiting, regulating, restricting, limiting or controlling the handling of, exposure to, or the use and disposal of any designated substance." Section 22 of the Act stipulates that before a substance can be designated under section 41, the Minister is to give public notice of intent and call for briefs or submissions in relation to the designation. Pursuant to the Act, the Ministry of Labour has established a process for designating hazardous substances. This process begins with the notice of intent to designate a substance, which, in the case of asbestos, was issued on June 28, 1980.<sup>30</sup> On August 16, 1980, a draft regulation on asbestos was published.<sup>31</sup> During the latter part of 1980 and the first half of 1981, 54 briefs were received from interested parties regarding the proposed asbestos regulation. In September of 1981, a revised regulation was issued by the Ministry of Labour, responding in part to the briefs that had been received to that point.<sup>32</sup> The proposed regulation was subsequently reviewed by the Minister's Advisory Council on Occupational Health and Occupational Safety during the spring of 1982. Finally, on August 20, 1982, the Regulation Respecting Asbestos was filed.<sup>33</sup>

While the process just described is commendable in the degree of public consultation that it involves, it is evidently slow. More than two years elapsed between the formal announcement that asbestos was to be designated and the issuance of the resulting regulation. While the designation of other substances has proceeded somewhat more rapidly, the welcome re-

<sup>29</sup>R.S.O. 1980, c. 321.

<sup>30</sup>Ontario, Ministry of Labour, "Notice of Intention," *The Ontario Gazette*, vol. 113-26, 28 June 1980, p. 2641.

<sup>31</sup>Ontario, Ministry of Labour, "Proposed Regulation under *The Occupational Health and Safety Act*, 1978: Asbestos — Designated Substance," *The Ontario Gazette*, vol. 113-33, 16 August 1980, pp. 3339-3348.

<sup>32</sup>Ontario, Ministry of Labour, Occupational Health and Safety Division, "Proposed Regulation under *The Occupational Health and Safety Act*, 1978 and Related Codes — Asbestos — Designated Substance," 22 September 1981. (Mimeographed.)

<sup>33</sup>Regulation Respecting Asbestos, O. Reg. 570/82, made under the *Occupational Health and Safety Act*, R.S.O. 1980, c. 321.



quirements of openness and submissions mean that the process is inherently time-consuming.

The notice of intent to designate indicates the Ministry's belief that a substance poses a significant hazard to the health of workers. The issuance of a regulation for a designated substance presumably enhances significantly the protection from that substance offered to workers. During the long period between issuance of a notice to designate and the emergence of the final regulation, workers continue to be exposed to a known hazard, without additional regulatory protection. In the case of asbestos, there was no prior control limit, but instead a guideline of 2 f/cc for occupational asbestos exposure except that a 0.2 f/cc guideline applied to crocidolite.<sup>34</sup> In workplaces with less than twenty employees, no joint health and safety committee was required, although this was required once the Regulation came into effect. And while a number of protective measures were in place, they lacked a status sufficient to make their violation a clear-cut legal offence.<sup>35</sup>

The absence of direct regulations while a substance is in the process of designation might be a matter of little concern if the process required only a few months. Where the process may require two years, the regulatory regime during this period is of considerable importance. It would obviously be desirable to impose such protection as could be provided during this interim period while waiting for the final regulation to be issued. This might be achieved by issuing a preliminary regulation as soon as possible after the notice of intent to designate is given. This preliminary regulation would protect workers while the final regulation was in the process of development. The preliminary regulation could specify those elements of the anticipated final regulation that were not seriously in controversy at the time. For example, if a guideline for worker exposure was in effect, that guideline might be adopted as a control limit by the preliminary regulation. If standardized measurement methods and respiratory protection were available, they too could be incorporated in the preliminary regulation, even though they might be altered in the final regulation. A joint health and safety committee could be required in all workplaces where the substance was present. The employer could be required to develop a control programme and a monitoring programme, in collaboration with the joint health and safety committee. The scope of the preliminary regulation might vary from one substance to another, depending upon what pre-existing standards, procedures, and methods were sufficiently accepted to constitute interim regulation. In the case of asbestos, all of the items listed

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<sup>34</sup>See Chapter 3, Section B of this Report.

<sup>35</sup>*Her Majesty the Queen v. The Windsor Board of Education and Eric Laub* in the Provincial Court (Criminal Division), County of Essex, His Honour Judge S. Nosanchuk, 11 June 1982, unreported.

above could have been made effective at the date when the notice of intent to designate was made.

It is possible that section 20 of the *Occupational Health and Safety Act* might provide a basis for the interim protection of workers during the designation of a substance. Section 20(1)(c) allows a Director within the Ministry to issue to employers orders which can specify "... administrative control, work practices, engineering control and time limits for compliance. . . ." Section 20, however, applies to an individual employer, so that the Director would be required to issue orders individually to each employer thought to be using the hazardous substance. Furthermore, section 20 requires reasons and opinions of the Director of the branch, and each order can be appealed to the Minister. The result of this is that section 20 has rarely been used, and it seems not to be a strong basis for interim regulation of hazardous substances.

A preferable alternative would be for the Ministry simply to proceed in two stages under section 41(2), paragraphs 14 and 15. After the notice of intent to designate was issued, the Ministry could formally designate the substance and adopt the preliminary regulation as soon as a preliminary regulation was ready. The process of developing the final regulation would continue, and when a final regulation was approved, it could replace the preliminary regulation. Given the notice requirements of section 22, however, it is likely that the Act would have to be amended to permit such a two-stage process.

The asbestos experience speaks for change which will afford an enhanced measure of worker protection during the time consumed by the process of substance designation. However, because asbestos has now been designated and other substances, which fall outside our terms of reference, are involved, we refrain from making a direct and detailed recommendation. The Minister's Advisory Council on Occupational Health and Occupational Safety is a representative body that includes members of labour and management. In our view, it is ideally situated to advise on the changes which, while maintaining the openness and thoroughness of the designation process, would permit the introduction and enforcement of interim regulations while this process unfolds. In this light, we recommend that:

*15.3 The Minister of Labour should make a formal reference to the Advisory Council on Occupational Health and Occupational Safety concerning what measures, including statutory amendment if necessary, should be taken to permit the preliminary regulation of designated substances while the designated substance process is underway.*

We consider that a two-stage procedure for designated substances would have several benefits. First and foremost, it would provide workers with some additional protection during the long process of designation.

Second, it would provide the Ministry of Labour with the legal basis for requiring those employers who might not voluntarily comply with a draft regulation to follow the good example set by those who do. It also preserves horizontal equity among employers in ensuring that all are following the same rules during the designation process.





# **Appendices**





# Appendix A

## Parties Granted Legal Standing by the Royal Commission on Asbestos

Party	Liaison Person(s)	Representative(s) at Hearings
1. Asbestos Information Association/North America	Mr. Timothy S. Hardy	Mr. Timothy S. Hardy Mr. Arthur F. Sampson III Mr. Edward W. Warren
2. Asbestos Victims of Ontario	Mr. Ed Cauchi Mr. David K.L. Starkman	Mr. Ed Cauchi Mr. David K.L. Starkman
3. Canadian Union of Public Employees, Ontario Division	Mr. Jack Bird	Through the Ontario Federation of Labour (OFL)
4. Communications Workers of Canada, Ontario Region	Mr. Gary Cwitco	Through the OFL
5. Energy and Chemical Workers Union	Mr. Robert Stewart Mr. Daniel Ublansky	Mr. Daniel Ublansky Also, through the OFL
6. Government of Ontario	Mr. Arthur L. Gladstone	Mr. Thomas R. Lederer Mr. James McNamee
7. Injured Workers' Consultants	Mr. Nick McCombie	Mr. Orlando Buonastella Mr. Nick McCombie
8. International Association of Bridge, Structural and Ornamental Iron Workers, Local 721	Mr. John Donaldson	Mr. David K.L. Starkman
9. International Brotherhood of Electrical Workers, Local Union 105	Mr. J. Barry Fraser	Through the OFL

**Appendix A (continued)**

<b>Party</b>	<b>Liaison Person(s)</b>	<b>Representative(s) at Hearings</b>
10. International Union, United Automobile, Aerospace and Agricultural Implement Workers of America, Canadian Region	Mr. James Gill	Through the OFL
11. Johns-Manville Canada Inc.	Mr. Thomas S. Patterson	Mr. Rick Evans
12. Labour Council of Metropolitan Toronto	Mr. Wally Majesky	Through the OFL
13. London and District Labour Council	Ms. Gail Sneddon	Through the OFL
14. Ontario Federation of Labour	Ms. Linda Jolley	Ms. Linda Jolley
15. Quebec Asbestos Mining Association	M <sup>e</sup> Phillipe Casgrain	M <sup>e</sup> Jean Bazin M <sup>e</sup> Phillipe Casgrain
16. St. Thomas and District Labour Council	Mr. Howard Hunter	Through the OFL
17. Toronto Occupational Health Resource Committee	Mr. Andrew King	Dr. Brian Gibson
18. United Electrical, Radio and Machine Workers of America, National Office	Mr. Val Bjarnason	Through the OFL
19. United Steelworkers of America, National Office and District 6	Mr. Lorne Heard Mr. Paul Falkowski Mr. Ken Valentine	Through the OFL
20. Windsor Occupational Safety and Health Council	Mr. James Brophy Mr. John Jackson	

# Appendix B

## Witnesses Before the Royal Commission on Asbestos

Date	Witness*	Institutional Affiliation**	Transcript Volume Number
11 June 1981	Dr. Philip E. Enterline	Professor and Chairman Department of Biostatistics University of Pittsburgh Pittsburgh, Pennsylvania, U.S.A.	8
16 June 1981	Dr. Hans Weill	Head, Pulmonary Diseases Section Department of Medicine School of Medicine Tulane University New Orleans, Louisiana, U.S.A.	9
18 June 1981 19 June 1981	Mr. Geoffrey Berry	Statistician Medical Research Council Pneumoconiosis Unit Llandough Hospital Penarth, Glamorgan, Wales	10 11

Notes: \*Witness called by the Royal Commission on Asbestos, unless otherwise indicated in parentheses.

\*\*Institutional affiliations given for witnesses are those at the time of their testimony. Where the word “formerly” is added, it is because the institutional affiliation given is relevant to the work of the Commission.



Date	Witness	Institutional Affiliation	Transcript Volume Number
24 June 1981	Dr. J. Corbett McDonald	Professor, School of Occupational Health McGill University Montreal, Quebec, Canada; and formerly, Director, TUC Centenary Institute of Occupational Health	12
25 June 1981			13
29 June 1981 30 June 1981	Dr. William J. Nicholson	London School of Hygiene and Tropical Medicine London, England	14 15
7 July 1981	Dr. Henry A. Anderson	Associate Professor, Community Medicine, and Associate Director, Environmental Sciences Laboratory Department of Community Medicine Mount Sinai School of Medicine The City University of New York, New York, New York, U.S.A.	16
8 July 1981	Mr. Richard A. Lemen	Chief, Section of Environmental Epidemiology Wisconsin State Division of Health Madison, Wisconsin, U.S.A.; and formerly, Assistant Professor Environmental Sciences Laboratory Department of Community Medicine Mount Sinai School of Medicine The City University of New York New York, New York, U.S.A.	17
		Director, Division of Criteria Documentation and Standards Development; and Director, Division of Technical Services National Institute for Occupational Safety and Health Rockville, Maryland, U.S.A.	

9 July 1981	Dr. Eric J. Chatfield	Head, Electron Optical Laboratory Department of Applied Physics Ontario Research Foundation Sheridan Park Research Community Mississauga, Ontario, Canada	18
20 July 1981	Dr. E. Donald Acheson	Director and Professor, Clinical Epidemiology Medical Research Council Environmental Epidemiology Unit Southampton General Hospital Southampton, England; and Co-author, "The Ill Effects of Asbestos on Health," a report to the U.K. Advisory Committee on Asbestos.	19
21 July 1981	Dr. Margaret R. Becklake	Professor of Epidemiology Department of Epidemiology and Health McGill University Montreal, Quebec, Canada	20
22 July 1981 23 July 1981	Dr. Paul Kotin (Asbestos Information Association/North America)	Senior Vice-President Health, Safety and Environment Johns-Manville Corporation Denver, Colorado, U.S.A.; and formerly, Vice-President for Health Sciences Temple University Health Sciences Center Philadelphia, Pennsylvania, U.S.A.	21(A) 21(B)
24 July 1981	M. Marc Trudeau	Chef, Service d'hygiène du travail Direction des programmes et normes Commission de la santé et de la sécurité du travail du Québec Montréal, Québec, Canada	22

Date	Witness	Institutional Affiliation	Transcript Volume Number
27 July 1981	Dr. Edwin C. Holstein	Assistant Professor Environmental Sciences Laboratory Department of Community Medicine Mount Sinai School of Medicine The City University of New York New York, New York, U.S.A.	23
28 July 1981	Dr. Murray M. Finkelstein	Medical Consultant Special Studies and Services Branch Occupational Health and Safety Division Ontario Ministry of Labour Toronto, Ontario, Canada	24
29 July 1981 30 July 1981	Mr. Julian Peto	Statistician Cancer Epidemiology and Clinical Trials Unit Imperial Cancer Research Fund University of Oxford Oxford, England	25(A) 25(B)
13 August 1981	Dr. Kenny S. Crump (Asbestos Information Association/ North America)	President Science Research Systems, Inc. Ruston, Louisiana, U.S.A.	26
14 August 1981	Dr. Gerald R. Chase and Dr. Harrison B. Rhodes (Johns-Manville Corporation; and Asbestos Information Association/North America)	Biostatistician/Epidemiologist Johns-Manville Corporation Denver, Colorado, U.S.A.  Manager, Occupational Health Union Carbide Corporation; and Chairman, Air-Monitoring Committee Asbestos Information Association/North America Washington, D.C., U.S.A.	27



20 August 1981	Dr. Jacques Dunnigan (Quebec Asbestos Mining Association)	Directeur, Institut de recherche et de développement sur l'amiante Université de Sherbrooke Sherbrooke, Québec, Canada	28
21 August 1981	Dr. Graham W. Gibbs	Director, Health and Safety Affairs Celanese Canada Inc., Montreal, Quebec, Canada; and formerly, Director, Institute of Occupational Health and Safety McGill University Mont St-Hilaire, Quebec, Canada	29
26 August 1981	Dr. Murray M. Finkelstein	Medical Consultant Special Studies and Services Branch Occupational Health and Safety Division Ontario Ministry of Labour Toronto, Ontario, Canada	30
27 August 1981	Dr. Alison D. McDonald	Directeur de programme au département de recherche interne Institut de recherche en santé et en sécurité du travail du Québec Montréal, Québec, Canada; and formerly, Professor and Head Department of Epidemiology St. Mary's Hospital Medical School London, England	31
23 October 1981	Dr. John M. Dement	Safety and Health Manager National Institute of Environmental Health Sciences Research Triangle Park, North Carolina, U.S.A.	32

Date	Witness	Institutional Affiliation	Transcript Volume Number
13 November 1981	Dr. Graham W. Gibbs	Director, Health and Safety Affairs Celanese Canada Inc., Montreal, Quebec, Canada; and formerly, Director, Institute of Occupational Health and Safety McGill University	33
15 January 1982	Dr. John M.G. Davis	Mont St-Hilaire, Quebec, Canada Head, Pathology Branch Institute of Occupational Medicine Edinburgh, Scotland	34
18 February 1982 19 February 1982	Mr. James F. Reis	President Asbestos Information Association/North America Washington, D.C., U.S.A.; and Director, Asbestos Policy Johns-Manville Corporation Denver, Colorado, U.S.A.	35(A) 35(B)
20 May 1982	Dr. Bailus Walker, Jr.	Director, Michigan Department of Public Health Lansing, Michigan, U.S.A.; and formerly, Director, Health Standards Programs Occupational Safety and Health Administration U.S. Department of Labor Washington, D.C., U.S.A.	36
28 May 1982	Mr. Gunnar Danielson and	Director General National Board for Occupational Health and Safety Stockholm, Sweden	37

Mr. Arne Westlin and	Head, Supervision Department National Board for Occupational Health and Safety Stockholm, Sweden	
Mr. Lars Ettarp and	Director, Department for Working Environment Ministry of Labour Stockholm, Sweden	
Mr. Harald Linton	Section Head, Department for Working Environment Ministry of Labour Stockholm, Sweden	
1 June 1982	Chairman, U.K. Health and Safety Commission; and formerly, Chairman, U.K. Advisory Committee on Asbestos London, England	38
8 June 1982	Member, Advisory Committee on Occupational Chest Diseases Ontario Workers' Compensation Board Toronto, Ontario, Canada; and formerly, Chief, Occupational Chest Disease Service Occupational Health Branch Occupational Health and Safety Division Ontario Ministry of Labour Toronto, Ontario, Canada	39
15 June 1982	Associate Deputy Minister of Labour, and Director, Occupational Health and Safety Branch Saskatchewan Department of Labour Regina, Saskatchewan, Canada	40(A)



Date	Witness	Institutional Affiliation	Transcript Volume Number
15 June 1982	Mr. Robert Wilson	Director, Health and Safety Division Ontario Hydro Toronto, Ontario, Canada	40(B)
16 June 1982	Mr. Ross Hunt	Research Physiologist, Industrial Health Research Unit BBA Group PLC Cleckheaton, England	41
21 June 1982	Mr. Gyan S. Rajhans	Chief, Occupational Health Hygiene Service Occupational Health Branch Occupational Health and Safety Division Ontario Ministry of Labour Toronto, Ontario, Canada	42(A)
21 June 1982	Dr. Peter L. Pelmeur	Director, Occupational Health Branch Occupational Health and Safety Division Ontario Ministry of Labour Toronto, Ontario, Canada	42(B)
22 June 1982	Mr. Walter Melinyshyn	Director, Industrial Health and Safety Branch Occupational Health and Safety Division Ontario Ministry of Labour Toronto, Ontario, Canada	43(A)
22 June 1982	Mr. James McNair	Special Advisor, Sectoral Studies Occupational Health and Safety Division Ontario Ministry of Labour Toronto, Ontario, Canada	43(B)

23 June 1982	Mr. Jack P. Cashman	President and General Manager Manville Canada Inc. Toronto, Ontario, Canada	44
28 June 1982	Mr. Bruce C. Machin	Vice-President and General Production Manager Manville Canada Inc. Toronto, Ontario, Canada	45(A)
28 June 1982	Mr. Eugene Girdauskas (Injured Workers' Consultants)	Chief Steward Canadian Union of Operating Engineers and General Workers, Local 110 Toronto, Ontario, Canada	45(B)
29 June 1982	Dr. Paul Kotin (Johns-Manville Corporation)	Formerly, Senior Vice-President Health, Safety and Environment Johns-Manville Corporation Denver, Colorado, U.S.A.	46
30 June 1982	Mr. Arthur L. Gladstone	Senior Policy Advisor Occupational Health and Safety Division Ontario Ministry of Labour Toronto, Ontario, Canada	47(A)
13 July 1982	Mr. John F. McDonald	Executive Director Claims Services Division Ontario Workers' Compensation Board Toronto, Ontario, Canada	48
14 July 1982	Dr. Alexander C. Ritchie	Professor of Pathology University of Toronto Toronto, Ontario, Canada	49

Date	Witness	Institutional Affiliation	Transcript Volume Number
14 July 1982	Mr. John F. McDonald	Executive Director Claims Services Division Ontario Workers' Compensation Board Toronto, Ontario, Canada	49
15 July 1982	Dr. Charles Stewart	Chest Disease Consultant Ontario Workers' Compensation Board Toronto, Ontario, Canada	50
16 July 1982	Dr. Cameron C. Gray	Consultant, Advisory Committee on Occupational Chest Diseases; and Special Consultant, Occupational Chest Diseases Medical Services Division Ontario Workers' Compensation Board Toronto, Ontario, Canada	51
16 July 1982	Dr. Douglas W. Dyer	Chest Disease Specialist Ontario Workers' Compensation Board Toronto, Ontario, Canada	51
19 July 1982	Mr. William D. Pearce	Rehabilitation Specialist Ontario Workers' Compensation Board Toronto, Ontario, Canada	52
20 July 1982	Dr. William J. McCracken	Executive Director Medical Services Division Ontario Workers' Compensation Board Toronto, Ontario, Canada	53



20 July 1982	Mr. John F. MacDonald	Executive Director Claims Services Division Ontario Workers' Compensation Board Toronto, Ontario, Canada	53
10 August 1982	Mr. Edgar G. Stevens	Industrial Hygienist Manville Canada Inc. Toronto, Ontario, Canada	54
10 August 1982	Dr. E. Keith Fitzgerald	Medical Officer of Health Department of Health Borough of Scarborough Scarborough, Ontario, Canada	54
11 August 1982	Mr. Alan G. MacDonald	Vice-Chairman of Administration and General Manager Ontario Workers' Compensation Board Toronto, Ontario, Canada	55
12 August 1982	Mr. William D. Pearce	Rehabilitation Specialist Ontario Workers' Compensation Board Toronto, Ontario, Canada	56
24 August 1982	Professor Peter S. Barth	Professor of Economics University of Connecticut Storrs, Connecticut, U.S.A.; and Author, <i>Workers' Compensation and Asbestos</i> in Ontario, Royal Commission on Asbestos, Study no. 2	57

## Appendix C

### Exhibits Filed During Royal Commission on Asbestos Hearings

Exhibit Number	Date Filed	During Testimony of:	Transcript Volume Number	Exhibit
II-1	11/06/81	Dr. Philip E. Enterline	8	Compendium of 12 Articles by Dr. Philip E. Enterline.
II-2	11/06/81	Dr. Philip E. Enterline	8	Enterline, Philip E. "Proportion of Cancer Due to Exposure to Asbestos." In <i>Banbury Report 9: Quantification of Occupational Cancer</i> , pp. 19-33. Edited by Richard Peto and Marvin Schneiderman. [Cold Spring Harbor, New York]: Cold Spring Harbor Laboratory, 1981. [In press version tabled.]
II-3	11/06/81	Dr. Philip E. Enterline	8	Enterline, Philip E. "Epidemiologic Basis for the Asbestos Standard." Paper presented at the Second Annual Symposium on Environmental Epidemiology, Pittsburgh, Pennsylvania, 28 April 1981. (Mimeographed.)
II-4	11/06/81	Dr. Philip E. Enterline	8	Dement, John M.; Harris, Robert L., Jr.; Symons, Michael J.; and Shy, Carl M. "Estimates of Dose-Response for Respiratory Cancer Among Chrysotile Asbestos Textile Workers." [In press version tabled.] Later published in <i>Annals of Occupational Hygiene</i> 26:1-4 (1982): 869-887.

II-5	16/06/81	Dr. Hans Weill	9	Finkelstein, Murray M. "Asbestosis Among Long-Term Employees of an Ontario Asbestos-Cement Factory." Toronto, Ontario Ministry of Labour, February 1981. (Mimeographed.)
II-6	16/06/81	Dr. Hans Weill	9	Finkelstein, Murray M. "Mortality Among Long-Term Employees of an Ontario Asbestos-Cement Factory: A Preliminary Report." Toronto, Ontario Ministry of Labour, February 1981. (Mimeographed.)
II-7	16/06/81	Dr. Hans Weill	9	Compendium of 16 Articles by Dr. Hans Weill.
II-8	16/06/81	Dr. Hans Weill	9	"Relative Risk (Observed/Expected) with 95% Confidence Intervals by Mean Exposure for Each of Five Exposure Categories." (Hard copy of transparency presented by Dr. Hans Weill.)
II-9	16/06/81	Dr. Hans Weill	9	"Prevalence of Small Opacities"; "Mean Reduction in Lung Function"; and "Risk of Respiratory Malignancy." (Hard copy of slide presented by Dr. Hans Weill.)
II-10	16/06/81	Dr. Hans Weill	9	Adaptation of "Dose-Responses for Lung Cancer." In U.K. Advisory Committee on Asbestos. <i>Asbestos — Volume 2: Final Report of the Advisory Committee</i> (Simpson Report), William J. Simpson, Chairman, Figure 11, p. 81. London: Her Majesty's Stationery Office, 1979; with additional dose-response curves drawn in for Weill and Dement studies. (Hard copy of transparency presented by Dr. Hans Weill.)



Exhibit Number	Date Filed	During Testimony of:	Transcript Volume Number	Exhibit
II-11	16/06/81	Dr. Hans Weill	9	Adaptation of "Plot of Lung Cancer and Other Non-malignant Respiratory Disease — SMRs by Cumulative Dose, White Males." In Dement et al. "Estimates of Dose-Response for Respiratory Cancer Among Chrysotile Asbestos Textile Workers," Figure 2, p. 10.4-11. Draft. (See Exhibit II-4 above.) With additional plot lines drawn for different conversion factors. (Hard copy of transparency presented by Dr. Hans Weill.)
II-12	16/06/81	Dr. Hans Weill	9	"Prevalence of Small Irregular Opacities," (Hard copy of transparency presented by Dr. Hans Weill.)
II-13	18/06/81	Mr. Geoffrey Berry	10, 11	Compendium of 16 Articles by Mr. Geoffrey Berry.
II-14	19/06/81	Mr. Geoffrey Berry	11	Peto, Julian. "Lung Cancer Mortality in Relation to Measured Dust Levels in an Asbestos Textile Factory," In <i>Biological Effects of Mineral Fibres</i> , Vol. 2, pp. 829-836. Edited by J.C. Wagner. IARC Scientific Publications, no. 30. Lyon, France: International Agency for Research on Cancer, 1980.
II-15	19/06/81	Mr. Geoffrey Berry	11	Rossiter, Charles E., and Berry, Geoffrey. "The Interaction of Asbestos Exposure and Smoking on Respiratory Health." <i>Bull. europ. Physiopath. resp.</i> 14 (1978): 197-204.

II-16	19/06/81	Mr. Geoffrey Berry	11	Extra References to 7 Articles by Mr. Geoffrey Berry.
II-17	24/06/81	Dr. J. Corbett McDonald	12	Dr. J. Corbett McDonald — Curriculum Vitae and List of Publications.
II-18	24/06/81	Dr. J. Corbett McDonald	12, 13	Compendium of 29 Articles by Dr. J. Corbett McDonald.
II-19	29/06/81	Dr. William J. Nicholson	14, 15	Compendium of 14 Articles by Dr. William J. Nicholson.
II-20	25/06/81	Dr. J. Corbett McDonald	13	Excerpt from Quebec Asbestos Mining Association. Written submission to the Royal Commission on Asbestos, #16, 14 January 1981, pp. 19, 21, 31, 32.
II-21	25/06/81	Dr. J. Corbett McDonald	13	Excerpt from Epstein, Samuel. <i>The Politics of Cancer</i> , p. 84. New York: Anchor Books, 1979.
II-22	25/06/81	Dr. J. Corbett McDonald	13	Excerpt from Chatfield, Eric J. "The Problems of Measurement of Asbestos." In Ontario, Royal Commission on Asbestos. <i>Proceedings of The Royal Commission on Asbestos, Second Public Meeting, Friday, December 12, 1980, Appendix A</i> , p. 5. Reported by Lydia Dotto. Toronto: Royal Commission on Asbestos, 1981.
II-23	07/07/81	Dr. Henry A. Anderson	16	Compendium of 9 Articles by Dr. Henry A. Anderson.

Exhibit Number	Date Filed	During Testimony of:	Transcript Volume Number	Exhibit
II-24	07/07/81	Dr. Henry A. Anderson	16	U.S. Environmental Protection Agency. Office of Toxic Substances. <i>Asbestos-Containing Materials in School Buildings: A Guidance Document. Part 1</i> , chap. 7. Washington, D.C.: U.S. Government Printing Office, 1979.
II-24(a)	07/07/81	Dr. Henry A. Anderson	16	"Wisconsin Asbestos Workshop Educational Materials."
II-25	07/07/81	Dr. Henry A. Anderson	16	Hammond, E. Cuyler, and Selikoff, Irving J. "Passive Smoking and Lung Cancer with Comments on Two New Papers." <i>Environmental Research</i> 24:2 (April 1981): 444-452.
II-26	08/07/81	Mr. Richard A. Lemen	17	Compendium of 12 Articles for Mr. Richard A. Lemen.
II-27	09/07/81	Dr. Eric J. Chatfield	18	Compendium of 19 Articles by Dr. Eric J. Chatfield.
II-28	20/07/81	Dr. E. Donald Acheson	19	Compendium of 9 Articles by Dr. E. Donald Acheson.
II-29	21/07/81	Dr. Margaret R. Becklake	20	Compendium of 18 Articles by Dr. Margaret R. Becklake.
II-30	22/07/81	Dr. Paul Kotin	21(A), 21(B)	Compendium of 12 Articles by Dr. Paul Kotin.

II-31(a)	22/07/81	Dr. Paul Kotin	21(A)	Morgan, A. "Fiber Dimensions: Their Significance in the Deposition and Clearance of Inhaled Fibrous Dusts." Harwell, Oxfordshire, 1975. (Mimeographed.)
II-31(b)	22/07/81	Dr. Paul Kotin	21(A)	Morgan, A.; Evans, J.C.; and Holmen, A. "Deposition and Clearance of Inhaled Fibrous Minerals in the Rat: Studies Using Radioactive Tracer Techniques." Harwell, Oxfordshire, 1977. Draft.
II-32	22/07/81	Dr. Paul Kotin	21(A)	Brody, Arnold R.; Hill, Lila H.; Adkins, Bernard, Jr.; and O'Connor, Robert W. "Chrysotile Asbestos Inhalation in Rats: Deposition Pattern and Reaction of Alveolar Epithelium and Pulmonary Macrophages." <i>American Review of Respiratory Disease</i> 123 (1981): 670-679.
II-33	24/07/81	M. Marc Trudeau	22	Whitwell, F.; Scott, J.; and Grimshaw, M. "Relationship Between Occupations and Asbestos-Fibre Content of the Lungs in Patients with Pleural Mesothelioma, Lung Cancer and Other Diseases." <i>Thorax</i> 32 (1977): 377-386.
II-34	24/07/81	M. Marc Trudeau	22	Compendium of 10 Articles for M. Marc Trudeau.
II-35	27/07/81	Dr. Edwin C. Holstein	23	Compendium of 4 Articles by Dr. Edwin C. Holstein.
II-36	28/07/81	Dr. Murray M. Finkelstein	24	Compendium of 9 Articles by Dr. Murray M. Finkelstein.



Exhibit Number	Date Filed	During Testimony of:	Transcript Volume Number	Exhibit
II-37	29/07/81	Mr. Julian Peto	25(A), 25(B)	Compendium of 12 Articles by Mr. Julian Peto.
II-38	13/08/81	Dr. Kenny S. Crump	26	Compendium of 3 Articles by Dr. Kenny S. Crump.
II-39	14/08/81	Dr. Gerald R. Chase and Dr. Harrison B. Rhodes	27	Compendium of 11 Articles by Dr. Gerald R. Chase and Dr. Harrison B. Rhodes.
II-40	20/08/81	Dr. Jacques Dunnigan	28	Compendium of 13 Articles for Dr. Jacques Dunnigan.
II-41	21/08/81	Dr. Graham W. Gibbs	29	Compendium of 35 Articles by Dr. Graham W. Gibbs.
II-42	27/08/81	Dr. Alison D. McDonald	31	Compendium of 16 Articles by Dr. Alison D. McDonald.
II-43	23/10/81	Dr. John M. Dement	32	Compendium of 12 Articles by Dr. John M. Dement.
II-44	23/10/81	Dr. John M. Dement	32	Excerpt from U.S. National Institute for Occupational Safety and Health. <i>Criteria for a Recommended Standard — Occupational Exposure to Asbestos</i> , Tables XI, XII, XXVI. Washington, D.C.: U.S. Department of Health, Education and Welfare, 1972.

II-45	23/10/81	Dr. John M. Dement	32	Excerpt from Lemen, Richard A.; Dement, John M.; and Seiter, Robert E. "Feasibility of Industrial Compliance with New Asbestos Standards," pp. 4, 5 plus assorted tables. Cincinnati, Ohio, NIOSH, n.d. Draft.
II-46	23/10/81	Dr. John M. Dement	32	Kaplan, Samuel D., and Gaffey, William R. "Miners Exposed to Amphibole Mineral: A Retrospective Cohort Mortality Study." Cincinnati, Ohio, U.S. Department of Health and Human Services, June 1981. (Mimeographed.)
II-47	15/01/82	Dr. John M.G. Davis	34	Compendium of 26 Articles by Dr. John M.G. Davis.
II-48	18/02/82	Mr. James F. Reis	35(A)	Assorted materials published by the Asbestos Information Association/North America.
II-49	18/02/82	Mr. James F. Reis	35(A)	Castleman, Barry. "Double Standards: Asbestos in India," <i>New Scientist</i> (26 February 1981): 522-523.
II-50	19/02/82	Mr. James F. Reis	35(B)	Letter from Mr. James F. Reis, Director, Asbestos Policy, Johns-Manville Corporation to the Royal Commission on Asbestos, 16 February 1982.
II-51	20/05/82	Dr. Bailus Walker, Jr.	36	Compendium of 20 Articles for Dr. Bailus Walker, Jr.
II-52	28/05/82	Mr. Gunnar Danielson Mr. Arne Westlin Mr. Lars Ettarp Mr. Harald Linton	37	Compendium of 15 Articles for Representatives from Government of Sweden.

Exhibit Number	Date Filed	During Testimony of:	Transcript Volume Number	Exhibit
II-53	01/06/82	Mr. William J. Simpson	38	Compendium of 15 Articles for Mr. William J. Simpson.
II-54(a)	08/06/82	Dr. Jerome J. Vingilis	39	American Medical Association. Committee on Rating of Mental and Physical Impairment. <i>Guides to the Evaluation of Permanent Impairment</i> . Chicago: AMA, 1971. Foreword, Preface, and chap. 4.
II-54(b)	08/06/82	Dr. Jerome J. Vingilis	39	Assorted Forms.
II-55	15/06/82	Mr. Robert Sass	40(A)	Compendium of 24 Articles for Mr. Robert Sass.
II-56	15/06/82	Mr. Robert Wilson	40(B)	Compendium of 8 Articles for Mr. Robert Wilson.
II-57	16/08/82	Mr. Ross Hunt	41	Compendium of 8 Articles by Mr. Ross Hunt.
II-58	21/06/82	Mr. Gyan S. Rajhans	42(A)	Compendium of 17 Articles for Mr. Gyan S. Rajhans.
II-59	22/06/82	Mr. Walter Melnyshyn	43(A)	Opening statement before the Royal Commission on Asbestos.
II-60(a)	22/06/82	Mr. Walter Melnyshyn	43(A)	Ontario. Ministry of Labour. Occupational Health and Safety Division. Industrial Health and Safety Branch. <i>Operations Manual</i> , section 7.4. "Potential Prosecutions." [Toronto]: revised February 1982; <i>ibid.</i> , section 9.2.4. "Forms — Special Action Request." revised March 1980.

II-60(b)	22/06/82	Mr. Walter Melnyshyn	43(A)	Ontario. Ministry of Labour. Occupational Health and Safety Division. Industrial Health and Safety Branch. <i>Operations Manual</i> . [Toronto: looseleaf.] Ontario. Ministry of Labour. Construction Health and Safety Branch. <i>Operations Manual</i> . [Toronto: looseleaf.]
II-60(c)	22/06/82	Mr. Walter Melnyshyn	43(A)	Ontario. Ministry of Labour. Memorandum from Mr. Paul Hess, Director, Legal Services Branch to Mr. Alan Heath, Director, Standards and Programs Branch, 22 April 1982.
II-61	22/06/82	Mr. James McNair	43(B)	Ontario. Ministry of Labour. Plant Visit Report on Bendix Eclipse of Canada Limited, 14 April 1966.
II-62	22/06/82	Mr. James McNair	43(B)	Ontario. Ministry of Labour. Field Visit Report on Bendix Eclipse Co. Ltd., 10 March 1970.
II-63	22/06/82	Mr. James McNair	43(B)	Ontario. Ministry of Labour. Field Visit Report on Hayes-Dana, Victor Products Division, 21 January 1981.
II-64	23/06/82	Mr. Jack P. Cashman	44	Johns-Manville. Organizational Charts.
II-65	23/06/82	Mr. Jack P. Cashman	44	Johns-Manville. Assorted Bulletins.
II-66	23/06/82	Mr. Jack P. Cashman	44	Manville Corporation. <i>Manville</i> [Annual Report 1981]; Manville Canada Inc. <i>Manville: 1981 In Review</i> .
II-67(a)	28/06/82	Mr. Bruce C. Machin	45(A)	Johns-Manville. Internal Correspondence from Mr. K.H. Reeve, Toronto Plant to Mr. J.R. Ariss. <i>CPDHC Frohroke</i> 24 December 1980.



Exhibit Number	Date Filed	During Testimony of:	Transcript Volume Number	Exhibit
II-67(b)	28/06/82	Mr. Bruce C. Machin	45(A)	Johns-Manville, Scarborough. Data on Capital Expenditures, 1960-1978.
II-68	28/06/82	Mr. Bruce C. Machin	45(A)	Manville. Internal Correspondence from Mr. R. Dennis Stevens, Toronto Plant to Mr. Bruce C. Machin, West Mall, 23 June 1982.
II-69	28/06/82	Mr. Bruce C. Machin	45(A)	Borough of Scarborough. Board of Health. Resolution on Asbestos, 7 March 1975.
II-70	28/06/82	Mr. Bruce C. Machin	45(A)	Johns-Manville. Toronto Plant. Notice to all Employees. "Smoking and Asbestos." 29 May 1975.
II-71	28/06/82	Mr. Eugene Girdauskas	45(B)	Compendium of 1 Article by Mr. Eugene Girdauskas.
II-72	28/06/82	Mr. Eugene Girdauskas	45(B)	Ontario. Ministry of Labour. Industrial Health and Safety Branch. Inspection Report for Ontario Hydro, 4 June 1980.
II-73	28/06/82	Mr. Eugene Girdauskas	45(B)	Safety Audit, #8 Unit, done by E. Girdauskas and R. Seaton, Members of Health and Safety Committee of the Hearn Generating Station, 26 May 1982.
II-74	29/06/82	Dr. Paul Kotin	46	Compendium of 14 Articles for Dr. Paul Kotin.
II-75	29/06/82	Dr. Paul Kotin	46	Correspondence between Johns-Manville and Dr. Murray M. Finkelstein, Ontario Ministry of Labour.

II-76	30/06/82	Mr. Arthur L. Gladstone	47(A)	Compendium of 8 Articles for Mr. Arthur L. Gladstone.
II-77	10/08/82	Dr. E. Keith Fitzgerald	54	Compendium of 1 Article by Dr. E. Keith Fitzgerald.
IV-1	13/07/82	Mr. John F. McDonald	48	The Workmen's Compensation Board, Ontario. Assorted Policy Statements and Forms.
IV-2	13/07/82	Mr. John F. McDonald	48	The Workmen's Compensation Board, Ontario. Organizational Charts.
IV-3	13/07/82	Mr. John F. McDonald	48	The Workmen's Compensation Board, Ontario. Claims Services Division. <i>Board Policies and Administrative Directives</i> , Directives 1-4 on section 42(5) [now section 43(5)] of the <i>Workers' Compensation Act</i> .
IV-4	15/07/82	Dr. Charles Stewart	50	Letter from Dr. William J. McCracken, Executive Director, Medical Services Division, The Workmen's Compensation Board, Ontario to Ms. Marion Endicott, Community Legal Worker, Injured Workers' Consultants, 4 March 1982.
IV-5	11/08/82	Mr. Alan G. MacDonald	55	The Workmen's Compensation Board, Ontario. Inter-Divisional Communication from Mr. John C. Neal, Board Actuary to Mr. Alan G. MacDonald, Vice-Chairman of Administration and General Manager, 9 July 1982.

Exhibit Number	Date Filed	During Testimony of:	Transcript Volume Number	Exhibit
IV-6	11/08/82	Mr. Alan G. MacDonald	55	The Workmen's Compensation Board, Ontario. <i>Experience Rating Plan for Employers</i> . Toronto: WCB, 1981.
IV-7	12/08/82	Mr. William D. Pearce	56	The Workmen's Compensation Board, Ontario. Data re Special Rehabilitation Assistance Programme, 26 March 1982.
IV-8	12/08/82	Mr. William D. Pearce	56	The Workmen's Compensation Board, Ontario. Data re Special Rehabilitation Assistance Programme, 1 January 1981 - 10 August 1982; 31 December 1980; and 31 December 1979.
IV-9	12/08/82	Mr. William D. Pearce	56	The Workmen's Compensation Board, Ontario. Inter-Divisional Communication from Dr. Douglas W. Dyer, Chest Disease Specialist to Mr. Alex Joma, Secretary, 10 August 1982.

# Appendix D

## Written Submissions Filed with the Royal Commission on Asbestos

Written Submission Number	Submitted By:
1	Mr. Victor Delmonte
2	Mr. Mark S. Rudolph
3	Borough of Scarborough, Building Department
4	Ms. Lorraine A. Cass
5	Mr. Howard B. Newcombe
6	Mrs. Margaret Moir
7	International Association of Bridge, Structural and Ornamental Iron Workers, Local 721
8	Asbestos Information Association/North America (AIA/NA)
9	R.T. Vanderbilt Company, Inc.
10	Ontario Medical Association, Committee on Public Health
11	American Industrial Hygiene Association, Ontario Local Section
12	Hamilton Labour Council, Hamilton Area Occupational Health and Safety Committee
13	Labour Council of Metropolitan Toronto
14	London and St. Thomas District Labour Councils, Health and Safety Committees



**Written Submission  
Number****Submitted By:**

- |    |  |
|----|--|
| 15 | Mrs. Frances Day   |
| 16 | Quebec Asbestos Mining Association   |
| 17 | Consumers' Association of Canada (Ontario)   |
| 18 | Johns-Manville Canada Inc.   |
| 19 | Gouvernement du Québec, Ministère de l'Energie et des<br>Ressources (Mines)  |
| 20 | Toronto Occupational Health Resource Committee   |
| 21 | Dow Chemical of Canada, Limited  |
| 22 | The Board of Education for the City of Toronto   |
| 23 | Canadian Union of Public Employees (CUPE), Ontario<br>Educational Institutes Co-ordinating Committee                         |
| 24 | Canadian Union of Public Employees (CUPE), Metropolitan<br>Toronto District Council  |
| 25 | Communications Workers of Canada, Ontario Region   |
| 26 | Asbestos Victims of Ontario  |
| 27 | Mr. Frank E. Stokes  |
| 28 | Ontario Public Service Employees Union (OPSEU)   |
| 29 | City of Toronto, Department of Public Health   |
| 30 | Canadian Union of Public Employees (CUPE),<br>Ontario Division   |
| 31 | Ontario New Democratic Party Caucus  |
| 32 | Energy and Chemical Workers Union (ECW)  |
| 33 | Construction Safety Association of Ontario (CSA)   |
| 34 | International Union, United Automobile, Aerospace and<br>Agricultural Implement Workers of America (UAW),<br>Canadian Region |
| 35 | Ontario Federation of Labour (OFL)   |
| 36 | United Electrical, Radio and Machine Workers of America<br>(UE), National Office   |
| 37 | Mrs. Odette Dodds  |
| 38 | The Ontario Association of School Business Officials   |

Written Submission Number	Submitted By:
39	Stelco Inc.
40	Canadian Union of Public Employees (CUPE), Local 27; and Windsor Occupational Safety and Health Council (WOSH)
41	Ms. Helen R. Hindle
42	United Steelworkers of America, National Office, Health and Safety Department
43	Ontario Ministry of Labour
44	Canadian Centre for Occupational Health and Safety
45	Canadian Environmental Law Association
46	Mr. Terry Howes
47	Mrs. Odette Dodds
48	Mr. Dwight Oland
49	Professor Edward J. Farkas
50	Woodsreef Minerals Ltd.
51	Mr. Douglas Wray
52	Mr. D.W. Bishop
53	Provincial Building and Construction Trades Council of Ontario
54	Mr. Bruce B. Koffler
55	Mrs. Marjorie Shorting
56	Ms. Sandra Elia
57	Ontario Hospital Association (OHA)
58	A.O. Wilson Process Equipment Limited
59	The London CUPE Council
60	Bendix Automotive of Canada, Ltd.
61	Ontario Ministry of Labour
62	Professor Frank C. Innes
63	International Association of Heat and Frost Insulators and Asbestos Workers, Insulators Health Hazards Program

Written Submission Number	Submitted By:
64	Mrs. Betty Glaser
65	The Bendix Corporation
66	Hamilton Labour Council, Hamilton Area Occupational Health and Safety Committee
67	Mr. Albert Lever
68	Mr. Wolfgang Palleske
69	The Workmen's Compensation Board, Ontario
70	Mr. G.W. Cousineau
71	Mr. Floyd Lefebvre
72	Mr. R.B. Diamond
73	Mrs. Betty Glaser
74	Mr. Dwight Oland
75	Mrs. Odette Dodds
76	Canadian Union of Operating Engineers and General Workers, Local 110
77	Energy and Chemical Workers Union
78	Ontario Federation of Labour (OFL)
79	United Electrical, Radio and Machine Workers of America (UE), National Office
80	Johns-Manville Canada Inc.
81	Mrs. G.W. Herron
82	Injured Workers' Consultants
83	Mr. Joseph Pagnello
84	Asbestos Victims of Ontario
85	Ontario Ministry of the Environment
86	Ms. Morag Perkins
87	Transport and General Workers Union, U.K.
88	International Association of Heat and Frost Insulators and Asbestos Workers Union, Local 95, Health and Safety Committee

# Appendix E

## Oral Submissions Before the Royal Commission on Asbestos

Date	Submission	Transcript Volume Number:
16 February 1981	Ontario Federation of Labour	1
16 February 1981	Labour Council of Metropolitan Toronto	1
16 February 1981	Energy and Chemical Workers Union	1
16 February 1981	Communications Workers of Canada, Ontario Region	1
16 February 1981	Canadian Centre for Occupational Health and Safety	1
16 February 1981	Asbestos Victims of Ontario	1
16 February 1981	Mrs. Odette Dodds	1
17 February 1981	Quebec Asbestos Mining Association	2
17 February 1981	Mr. Terry Howes	2
17 February 1981	Ontario New Democratic Party Caucus	2
17 February 1981	Johns-Manville Corporation	2
17 February 1981	International Union, United Automobile, Aerospace and Agricultural Implement Workers of America, Canadian Region	2
17 February 1981	Canadian Environmental Law Association	2
18 February 1981	International Association of Bridge, Structural and Ornamental Iron Workers, Local 721	3
18 February 1981	Construction Safety Association of Ontario	3



Date	Submission	Transcript Volume Number:
18 February 1981	Ontario Federation of Labour	3
18 February 1981	American Industrial Hygiene Association, Ontario Local Section	3
18 February 1981	Injured Workers' Consultants	3
18 February 1981	Toronto Occupational Health Resource Committee	3
18 February 1981	City of Toronto, Board of Education	3
18 February 1981	Borough of Scarborough, Building Department	3
18 February 1981	City of Toronto, Department of Public Health, Health Advocacy Unit; and Food Control and Sanitation Division	3
18 February 1981	Canadian Union of Public Employees, Ontario Division	3
18 February 1981	Canadian Union of Public Employees, Ontario Educational Institutes Co-ordinating Committee; and Metropolitan Toronto District Council	3
18 February 1981	Ontario Public Service Employees Union	3
19 February 1981	The Ontario Association of School Business Officials	4
19 February 1981	Asbestos Information Association/North America	4
19 February 1981	Ontario Ministry of Labour	4
19 February 1981	Woodsreef Minerals Ltd.	4
19 February 1981	United Steelworkers of America, National Office, Health and Safety Department; and District 6	4
20 February 1981	Asbestos Victims of Ontario	5
20 February 1981	United Electrical, Radio and Machine Workers of America, National Office	5
20 February 1981	Mr. Alan Davis	5
27 March 1981	Canadian Union of Public Employees, Local 27; and Windsor Occupational Safety and Health Council	6
27 March 1981	Professor Frank C. Innes	6
27 March 1981	Ontario Ministry of Labour	6

Date	Submission	Transcript Volume Number:
27 March 1981	International Union, United Automobile, Aerospace and Agricultural Implement Workers of America, Canadian Region; and Local 195	6
27 March 1981	London and District Labour Council; and St. Thomas and District Labour Council	6
27 March 1981	Canadian Union of Public Employees, London District Council	6
8 June 1981	Provincial Building and Construction Trades Council of Ontario	7
8 June 1981	Gouvernement du Québec, Ministère de l'Energie et des Ressources	7
8 June 1981	International Association of Heat and Frost Insulators and Asbestos Workers	7
8 June 1981	Dow Chemical of Canada, Limited	7
8 June 1981	Mrs. Betty Glaser	7
5 July 1982	Mrs. Betty Glaser	47(B)
5 July 1982	Mrs. Lilian Perkins and Ms. Morag Perkins	47(B)
5 July 1982	Mrs. Odette Dodds	47(B)
5 July 1982	Mr. Joseph Pagnello	47(B)
5 July 1982	Mrs. Camille Haineault	47(B)
5 July 1982	Mr. Ed Cauchi	47(B)
5 July 1982	International Association of Heat and Frost Insulators and Asbestos Workers, Local 95	47(B)
5 July 1982	Energy and Chemical Workers Union	47(B)
5 July 1982	Mr. Floyd Lefebvre	47(B)
28 January 1983	Asbestos Victims of Ontario	58
28 January 1983	Energy and Chemical Workers Union	58
28 January 1983	Injured Workers' Consultants	58
28 January 1983	Ontario Federation of Labour	58
28 January 1983	Asbestos Information Association/North America	58
28 January 1983	Quebec Asbestos Mining Association	58

Date	Submission	Transcript Volume Number:
28 January 1983	Government of Ontario	58
28 January 1983	Mr. Ed Cauchi	58
28 January 1983	Mrs. Odette Dodds	58

# Appendix F

## Publications and Other Materials Released by the Royal Commission on Asbestos

### Study Series\*

- no. 1. *Collective Bargaining and Asbestos Dangers at the Workplace*, by Morley Gunderson and Katherine Swinton. 1981.  
ISBN 0-7743-6834-9 \$6.50
- no. 2. *Workers' Compensation and Asbestos in Ontario*, by Peter S. Barth. 1982.  
ISBN 0-7743-7024-6 \$5.50
- no. 3. *Policy Options in the Regulation of Asbestos-Related Health Hazards*, by Carolyn J. Tuohy and Michael J. Trebilcock. 1982.  
ISBN 0-7743-7043-2 \$10.00
- no. 4. *The Politics of Risk: The Identification of Toxic and Other Hazardous Substances in Canada*, by G. Bruce Doern. 1982.  
ISBN 0-7743-6960-4 \$4.25
- no. 5. *Living with Contradictions: Health and Safety Regulation and Implementation in Ontario*, by G. Bruce Doern, Michael Prince, and Garth McNaughton. 1982.  
ISBN 0-7743-7056-4 \$10.00
- no. 6. *Worker Attitudes About Health and Safety in Three Asbestos Brake Manufacturing Plants*, by Sally Luce and Gene Swimmer. 1982.  
ISBN 0-7743-7057-2 \$5.00
- no. 7. *The Technical Feasibility and Cost of Controlling Workplace Exposure to Asbestos Fibres*, by Gordon M. Bragg. 1982.  
ISBN 0-7743-7311-3 \$5.50
- no. 8. *Asbestos in Buildings*, by Donald J. Pinchin. 1982.  
ISBN 0-7743-7323-7 \$10.00



no. 9. *Measurement of Asbestos Fibre Concentrations in Workplace Atmospheres*, by Eric J. Chatfield. 1982.  
ISBN 0-7743-7777-1 \$2.75

no. 10. *Measurement of Asbestos Fibre Concentrations in Ambient Atmospheres*, by Eric J. Chatfield. 1983.  
ISBN 0-7743-8175-2 \$3.25

### Other Publications

*Proceedings of The Royal Commission on Asbestos, First Public Meeting, Friday, October 31, 1980.* Chairman: J. Stefan Dupré. Reporter: Elizabeth J. Hiscott, B.Sc. 1980.  
ISBN 0-7743-6024-0 \$1.50

*Proceedings of The Royal Commission on Asbestos, Second Public Meeting, Friday, December 12, 1980.* Chairman: J. Stefan Dupré. Reporter: Lydia Dotto. 1981.  
ISBN 0-7743-6086-0 \$1.50

Copies of these publications have been placed in all full depository libraries in Ontario. Copies can also be purchased in person at the Ontario Government Bookstore, 880 Bay Street, Toronto, Ontario (Telephone: 416/965-2054), or by forwarding a cheque or money order, made payable to the Treasurer of Ontario, to: Ontario Ministry of Government Services, Publications Services Branch, Mail Order Service, 880 Bay Street, 5th Floor, Toronto, Ontario, Canada, M7A 1N8. (Telephone: 416/965-6015.)

### Background Paper Series

no. 1. *A Survey of Asbestos Policies in Canada with Particular Emphasis on Ontario*, by Sandra Glasbeek. 1981.

no. 2. *A Review of Four Major Reports on the Health Hazards of Asbestos*, by The Canadian Centre for Occupational Health and Safety. 1981.

### Brochure and Newsletters

*Royal Commission on Matters of Health and Safety Arising from the Use of Asbestos in Ontario*, brochure outlining Terms of Reference. 1980.  
ISBN 0-7743-5474-7

- no. 80-1, November 1980
- no. 81-1, February 1981
- no. 81-2, March 1981
- no. 81-3, April 1981
- no. 81-4, May 1981
- no. 81-5, October 1981
- no. 82-1, February 1982
- no. 82-2, April 1982
- no. 82-3, May 1982
- no. 82-4, October 1982
- no. 83-1, January 1983

A limited number of these publications are obtainable through the Ontario Ministry of the Attorney General, Programme Analysis and Implementation Branch, 18 King Street East, 5th Floor, Toronto, Ontario, Canada, M5C 1C5. (Telephone: 416/965-7503.)

# Reviews of Studies Prepared for the Royal Commission on Asbestos

Reviewer	Author(s) of Study	Title of Study
1. Steven Kelman	G. Bruce Doern	<i>The Politics of Risk: The Identification of Toxic and Other Hazardous Substances in Canada</i>
2. Steven Kelman	G. Bruce Doern Michael Prince Garth McNaughton	<i>Living with Contradictions: Health and Safety Regulation and Implementation in Ontario</i>
3. Harry Arthurs	Morley Gunderson Katherine Swinton	<i>Collective Bargaining and Asbestos Dangers at the Workplace</i>
4. Gordon B. Milling	Morley Gunderson Katherine Swinton	<i>Collective Bargaining and Asbestos Dangers at the Workplace</i>
5. Lester Lave	Morley Gunderson Katherine Swinton	<i>Collective Bargaining and Asbestos Dangers at the Workplace</i>
6. Lester Lave	Carolyn J. Tuohy Michael J. Trebilcock	<i>Policy Options in the Regulation of Asbestos-Related Health Hazards</i>
7. Adam S. Little	Peter S. Barth	<i>Workers' Compensation and Asbestos in Ontario</i>
8. Terence G. Ison	Peter S. Barth	<i>Workers' Compensation and Asbestos in Ontario</i>
9. Richard Merrill	G. Bruce Doern	<i>The Politics of Risk: The Identification of Toxic and Other Hazardous Substances in Canada</i>
10. Linda Jolley	Carolyn J. Tuohy Michael J. Trebilcock	<i>Policy Options in the Regulation of Asbestos-Related Health Hazards</i>
11. Linda Jolley	G. Bruce Doern Michael Prince Garth McNaughton	<i>Living with Contradictions: Health and Safety Regulation and Implementation in Ontario</i>
12. Nicholas Ashford	Gordon M. Bragg	<i>The Technical Feasibility and Cost of Controlling Workplace Exposure to Abestos Fibres</i>

# Appendix G

## Research, Administrative, and Secretarial Staff of the Royal Commission on Asbestos

### *Researchers:*

Ronald J. Daniels, B.A.  
James D. Fisher, M.B.A.  
Sandra Glasbeek, LL.B.  
Marilyn Leitman, LL.B.  
Susan Paul, LL.B.  
Larry Schembri, B.A.

### *Librarian:*

Patricia S. Rubin, M.Sc.

### *Secretary:*

Phyllis D. Bartley

### *Support Staff for Report:*

Brian Tremblay  
Réjeanne Walkland

### *Court Reporter for Hearings:*

Les Homans

### *Transcriber:*

Edwina Macht

# Appendix H

## Consultants Engaged by the Royal Commission on Asbestos

Name	Institutional Affiliation
David Andrews	Department of Preventive Medicine and Biostatistics, University of Toronto
Peter S. Barth	Department of Economics, University of Connecticut
David V. Bates	Department of Medicine, University of British Columbia
Gordon M. Bragg	Department of Mechanical Engineering, University of Waterloo
Eric J. Chatfield	Department of Applied Physics, Ontario Research Foundation
G. Bruce Doern	School of Public Administration, Carleton University
Emmanuel Farber	Faculty of Medicine, University of Toronto
Morley Gunderson	Centre for Industrial Relations, University of Toronto
John Jaworski	National Research Council Canada
Richard Kuntze	Special Programmes, Ontario Research Foundation
David C.F. Muir	Occupational Health Program, McMaster University
Julian Peto	Imperial Cancer Research Fund, University of Oxford
Donald J. Pinchin	D.J. Pinchin Technical Consulting Ltd.
J. Robert S. Prichard	Faculty of Law, University of Toronto
Samuel A. Rea, Jr.	Institute for Policy Analysis, University of Toronto
Robin S. Roberts	Department of Clinical Epidemiology and Biostatistics, McMaster University
Neil Rowlands	Department of Mining and Metallurgical Engineering, McGill University
Harry Shannon	Occupational Health Program, McMaster University
John Steel	Nuffield Department of Industrial Health, University of Newcastle-upon-Tyne
John L. Sullivan	Department of Chemical Engineering, University of Western Ontario



Name	Institutional Affiliation
Katherine Swinton	Faculty of Law, University of Toronto
Michael J. Trebilcock	Faculty of Law, University of Toronto
Carolyn J. Tuohy	Department of Political Science, University of Toronto
Edwin Warrick	Airport Facilities Branch, Transport Canada
Fred J. Wicks	Department of Mineralogy, Royal Ontario Museum
Albert Winer	Formerly with CANMET, Energy, Mines and Resources Canada

### Biographical Notes on Commissioners

*J. Stefan Dupré*, Ph.D., D.Sc.Soc., LL.D., D.U., is a professor of political science at the University of Toronto, and a past Chairman of the University's Department of Political Economy. He served as founding Chairman of the Ontario Council on University Affairs. From 1969 to 1977, Dr. Dupré was a member of the National Research Council of Canada. Between 1977 and 1980, he was a member of the Professional Organizations Committee of the Attorney General of Ontario. He is a Past President of the Institute of Public Administration of Canada.

*J. Fraser Mustard*, M.D., Ph.D., D.Sc., F.R.C.P.(C), F.R.S.C., is President of the Canadian Institute for Advanced Research. He is also a professor of pathology at McMaster University in Hamilton, Ontario, where he was Dean and/or Vice-President of Health Sciences from 1972 to 1982. His career has spanned the fields of academia, administration, and research with special interest in the factors and mechanisms causing cardiovascular disease. From 1966 to 1972, Dr. Mustard was a member of the Ontario Council of Health. In 1973-1974, he was Chairman of the Task Force on Health Planning for the Ministry of Health. From 1973 to 1975, he chaired the Committee on Diet and Cardiovascular Disease for Health and Welfare Canada. Between 1974 and 1981, he served as a member of the Ontario Council on University Affairs. He was Chairman of the Minister of Labour's Advisory Council on Occupational Health and Occupational Safety from 1978 to 1984.

*Robert J. Uffen*, O.C., P.Eng., Ph.D., D.Sc., F.R.S.C., is the past Dean of the Faculty of Applied Sciences at Queen's University in Kingston, Ontario. In the summer of 1980, Dr. Uffen resumed activities as a professor of engineering and geophysics at Queen's Department of Geology. He is a fellow of the Royal Society of Canada and a former member of the Science Council of Canada. He is a fellow of the Geological Society of America and, before joining the Faculty at Queen's, he acted as the Chief Science Advisor to the federal Cabinet. He was a member of the National Research Council of Canada's Associate Committee on Scientific Criteria for Environmental Quality. In 1983, Dr. Uffen was made an Officer of the Order of Canada.



## **Selected Bibliography**





## Selected Bibliography\*

### Books Frequently Cited

The following books contain numerous papers or articles that are listed individually in the selected bibliography. Publication information for each book is given in full below, and the subsequent bibliographic entry for the individual papers or articles refer to book titles only.

Bogovski, P.; Gilson, J.C.; Timbrell, V.; and Wagner, J.C., eds. *Biological Effects of Asbestos*. IARC Scientific Publications, no. 8. Lyon, France: International Agency for Research on Cancer, 1973.

Lemen, Richard A., and Dement, John M., eds. *Dusts and Disease*. Park Forest South, Illinois: Pathatox Publishers, Inc., 1979.

Mineralogical Association of Canada. *Short Course in Mineralogical Techniques of Asbestos Determination*. Université Laval, Québec: 20-22 May 1979. Edited by R.L. Ledoux. Toronto: Mineralogical Association of Canada, Royal Ontario Museum, May 1979.

Peto, Richard, and Schneiderman, Marvin, eds. *Banbury Report 9: Quantification of Occupational Cancer*. [Cold Spring Harbor, New York]: Cold Spring Harbor Laboratory, 1981.

*Proceedings of the World Symposium on Asbestos*. Montreal, Quebec: 25-27 May 1982. Montreal, Quebec: Canadian Asbestos Information Centre [1983].

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**Note:** \*The written submissions filed with the Royal Commission on Asbestos are listed in full in Appendix D at the end of this Report.

The Studies, Reviews of Studies, and Background Papers prepared for the Royal Commission on Asbestos are listed in full in Appendix F at the end of this Report.

United States. Environmental Protection Agency. *Proceedings of the National Workshop on Substitutes for Asbestos*. Arlington, Virginia: 14-16 July 1980. EPA-560/3-80-001. Washington, D.C.: U.S. Environmental Protection Agency, 1980.

Wagner, J.C., ed. *Biological Effects of Mineral Fibres*. 2 vols. IARC Scientific Publications, no. 30. Lyon, France: International Agency for Research on Cancer, 1980.

## Books, Reports, Papers, and Articles

A/C Pipe Producers Association. *Recommended Work Practices for A/C Pipe*. Arlington, Virginia: The Association, 1977.

Acheson, E. Donald, and Gardner, Martin J. "The Ill Effects of Asbestos on Health." In U.K., Advisory Committee on Asbestos. *Asbestos — Volume 2: Final Report of the Advisory Committee* (Simpson Report). William J. Simpson, Chairman, pp. 7-83. London: Her Majesty's Stationery Office, 1979. [RCA Exhibit II-28, Tab 5; RCA Exhibit II-53, Tab 4.]\*

Acheson, E. Donald, and Gardner, Martin J. *Asbestos: The Control Limit for Asbestos*. Prepared for the U.K. Health and Safety Commission. London: Her Majesty's Stationery Office, 1983.

Addingley, C.G. "Asbestos Dust and Its Measurements." *Annals of Occupational Hygiene* 9 (April 1966): 73-82.

Advisory Task Force on Asbestos in Schools. *Report (A Practical Document)*. Toronto: Metropolitan Toronto School Board, May 1980.

Alavanja, Michael; New, Christine; and Parsells, Judy. "An Assessment of the Epidemiological Literature Related to Worker Exposure to Chrysotile in Mines and Mills." NIOSH internal document prepared for the U.S. Mine Safety and Health Administration, 1981. (Mimeographed.)

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**Note:** \*Cross-references are given where materials in this Selected Bibliography have been tabled as "Exhibits" during the Commission's public hearings. A full list of exhibits appears as Appendix C to this Report.

In this Selected Bibliography, most cross-references are in the format of "Exhibit X, Tab Y." In these instances, "Exhibit X" refers to a collection of articles or other materials written by, or relevant to, a particular witness; these were bound and given a collective exhibit number during our hearings. "Tab Y" refers to an index number assigned to each article within the Exhibit. This format became a shorthand way of referring to articles as we were discussing them during the testimony of witnesses.

- Alste, J.; Watson, D.; and Bagg, J. "Airborne Asbestos in the Vicinity of a Freeway." *Atmospheric Environment* 10:8 (1976): 583-589.
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